

HISTORY
OF THE
BERWICKSHIRE
NATURALISTS' CLUB

INSTITUTED SEPTEMBER 22, 1831

"MARE ET TELLUS, ET, QUOD TEGIT OMNIA, CÆLUM"

VOL. XXX. 1938, 1939, 1940-46

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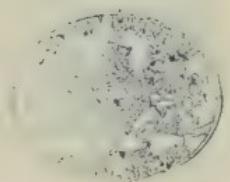
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• PROCEEDINGS
OF THE
BERWICKSHIRE NATURALISTS' CLUB

A BERWICKSHIRE ESTATE AND ITS OWNER
IN THE EIGHTEENTH CENTURY.

*Address delivered to the Berwickshire Naturalists' Club
at Berwick, 5th October 1938. By CAPT. J. H. F.
M'EWEN, M.P., of Marchmont.*

ANY man who finds himself in the honourable and responsible position which I find myself occupying this afternoon must feel very acutely a sense of his own inadequacy. For now the time is come when "Tam maun ride," when he to whom you entrusted the President's flag must justify his twelve months' possession of it. And how, he may well ask himself, is he going to do it? Upon what subject can he feel himself qualified, without presumption, to address his learned fellow members. In the present instance, for example, I am painfully aware of the difficulty with which anyone in my place would be faced who had to follow a Presidential address such as we were privileged to have last year, which not only was of absorbing interest to hear, but in the literal sense of a hackneyed phrase "made History." Nor is it any more encouraging to look back through the long list of previous addresses.

It is true that on one occasion the President—then Sir George Douglas of Springwood Park—in lieu of an address read out a ballad of his own composition. But I fear one has to be a Sir George Douglas to get away with that! No help there! And so, in pondering anxiously as to what subject I could fittingly offer you I suddenly bethought me of one which at any rate had the virtue of relevancy—namely, a historical glimpse into the working and agricultural conditions in the eighteenth century of the estate of which I happen now to be the possessor. An additional interest seemed to me to attach to the subject in view of the honour the Club did me by visiting Marchmont on one of our outings this year.

I should add that I am indebted for most of the information which I am about to present to you to Mr George S. Maxton, M.A., Ph.D., who from the voluminous papers—Journals, Ledgers, Stock Books, Inventories, Rent Books, Leases and Contracts—in the Register House has lately compiled a most learned and interesting treatise on agricultural developments on the estate during the mid-eighteenth century period.

But before entering upon our investigations into agricultural matters let us for a moment consider the personality and character of the man in whose hands the estate then was, and under whose enlightened direction it was managed. Hugh, third, and, as events were to prove, last Earl of Marchmont, was born on 15th February 1708. As Lord Polwarth he sat in the House of Commons as member for Berwick-on-Tweed from 1734 until he succeeded on the death of his father in 1740. Ten years later he was elected a Representative Peer for Scotland, and retained his seat in the Upper House thereafter for thirty-four years. He died in 1794 at Hemel Hempstead in Hertfordshire, aged eighty-six. Lord Marchmont was twice married. His first wife was

Anne, daughter of Sir Thomas Western. This marriage lasted for sixteen years until Lady Marchmont's death in 1747. After this sad event Lord Marchmont, a widower with three daughters (the only boy had pre-deceased his mother), fell in love with, and married within a year of his first wife's death, a lady of great beauty whom he happened to see in a London playhouse. He asked who she was, made her acquaintance, and became engaged to her the following day. She was Miss Elizabeth Crompton, the daughter of a linen-draper of Cheapside in the City of London. Of this marriage, which was likewise a very happy one, there was born one child, a son, whose welcome arrival in 1750 his father celebrated by demolishing Redbraes Castle, the ancient seat of the family, and setting in hand the building of the present house of Marchmont. But alas for the vanity of human hopes! for this precious son and heir, upon whom so much future promise was centred, died of consumption in 1781, thirteen years before his father, and thus made inevitable the eventual failure, in the male line, of the family. He had married Lady Amabel Yorke. Of Lord Marchmont's three surviving daughters, the eldest, Lady Anne, married Sir John Paterson of Eccles in 1755, and died at Newcastle in 1790, leaving one daughter who married Sir Philip Anstruther but died childless. The second daughter, Margaret, married Maj.-General James Stuart, a son of Archibald Stuart of Torrance, but died without issue in Edinburgh within two years of her marriage. The youngest, Lady Diana, married in 1754 Walter Scott of Harden and died in 1827, leaving a son, Hugh Scott, who successfully established his claim to the Barony of Polwarth in 1835 and from whom the present Lords Polwarth descend. Lord Marchmont was therefore at the end of his long life a lonely and disappointed old man, which probably explains his preference in

those years for his English residence, where, as has been seen, he eventually died, to his Scottish home. But he was a man of a fine literary and artistic taste, and of a methodical and order-loving turn of mind. This is proved by his diary and personal account books to which reference has already been made. These show him to have been a man of wide culture, of a keen intellect, watchful of the management and running of his estate, and of a just and generous disposition. At his death he left a magnificent library, so we are not surprised to find many entries in his accounts such as these:

30th May 1750.	For books fr. C. Marsh	17/-.
23rd June , ,	To Geo. Freer for binding books	£1 : 9/-.
	For a print	10/6.

But he was likewise a musician:

Feb. 1754.	A violin & case	6 guineas.
	A german flute (concert pitch)	18/-.
	A bass flute	2 guineas.
	A case for my flute	£1-7-0.
	A sonata writing	3/6.
	Repairing my violoncello, bow, strings, etc.	£4-14-6.

Here are some items of expenditure in connection with his election as a Scottish Representative Peer in 1750:—

Jan. 30.	Laceing to Parl. Robes	£9 18 0
	Taking oaths etc. H. of Lords	£2 4 6
	Robes for Lady Marchmont	14/6.
	Earrings for Ladies Marg. & Diana	15/-.
23 Sept. 1751.	To my election as one of the 16 Peers	£12 19 6

and later:—

Dinner at my election	£100.
---------------------------------	-------

We learn that at the beginning and end of each Parliamentary session he gave the doorkeepers at the House of Lords a tip of two guineas.

Nor are the expenses of his personal clothing neglected:

30 May 1750.	Mettal buckles	17/-.
	6 prs. hose	one guinea.
	A hat	£1 4 0
	A tye-wig	4 guineas.
	A bob-wig	2 guineas.
	For having my night-gown turned.	5/-.

But of exceptional interest are his travelling expenses. He, like myself, and for the same reason—politics—led a double life, partly at Marchmont and partly in London, involving many journeyings up and down. Some idea of the difficulties of such travelling may be gathered from the following entries:—

4 Jan. 1753.	Journey to London (expense of 10 horses)	£21 1 4
	Ditto (our expenses at inns)	£28 12 1
	Small articles bought on the road	£3 8 11

		£53 2 4
	Board wages 6 servants 16 days	£4 16 0
	Turnpikes	£3 6 5½
	Drugs for horses	£1 1 2
	Freight fr. Berwick—4 servants and goods	£6 4 0
	Warfage on goods at Berwick.	14/-.
	Chairman bringing plate fr. Mr Johnson's	9/-.

Such, then, was the man. Let us now turn to the estate which he owned and in the agricultural development of which he showed such activity. Marchmont Estate in the eighteenth century comprised upwards of 20,000 acres, of which roughly two-thirds was made up

of the good natural soil of the Merse and the remainder of moorland. The farming lands of the estate were, as was customary elsewhere in Scotland, divided into Infield and Outfield, which constituted two types of arable land. The former was regarded as the richer, and consequently more intensively cultivated; the latter—far the larger portion in area and variety—received generally less attention. These terms continued in use well into the nineteenth century. But even the moorland had an indirect value in enriching the soil of the infield, for as Kerr, in his *Survey of Berwickshire*, says: “It is obvious that the most irreclaimable sterility of large tracts of moor all over Scotland has been occasioned by the frequently renewed practice of paring and carrying away the surface for turf, fuel, and divot, thus removing in a moment the gradually formed vegetable soil which may require centuries to restore. The infield lands and crofts about villages and farm towns have, however, greatly benefited from this barbarous practice, having thereby acquired large accessions of rich adventitious soil from the ashes of village fires and the ruins of sod walls always being laid as manure upon the home lands.” In a report on agricultural conditions generally throughout Scotland made in the seventeen-forties by Andrew Wight of Ormiston, it was stated: “While the bulk of our farmers are creeping in the beaten path of miserable husbandry without knowing better or even wishing to know better, several men of genius, shaking off the fetters of custom, have traced out new paths for themselves and have been successful, even beyond expectation, but their success has hitherto produced few imitators: so far from it that among their slovenly neighbours they are reckoned giddy-headed projectors.” One of the best known of these “men of genius” is, of course, Lord Kames, but Lord Marchmont, though he

also may have been reckoned a "giddy-headed projector" in his day, must now be ranked every bit as highly as Kames in the roll of agricultural improvers. If we once more refer to his account books we will find items of personal expenditure in this direction of great significance. In 1750 we find him spending £3 on artichokes, £2 on "tree and flower seeds," and in 1751 £2, 6s. on "2 cedar cones from Italy," and later in the same year £16, 3s. on "2 Drill ploughs," which is particularly interesting as we know on Kerr's authority that these were unknown in Berwickshire up to about 1750. We can therefore deduce with confidence that Marchmont was their first introducer. Strawberry plants and broccoli are two further items mentioned as having been purchased in London for the enrichment of his estate. As regards crops, those chiefly cultivated were pease, barley, and oats. Occasionally wheat and vetches (the latter for fodder) found a place, but oats predominate. There was no definitely fixed rotation, but it would appear that an alternation of pease, barley, oats, and fallow in varying order was the general rule. But let us look at some further examples of Marchmont's enlightened pioneering. Take, for example, Scots kail. It was a Berwickshire farmer, Mr Fordyce in Ayton, who is said to have introduced kail or coleseed to the husbandry of the county some time after 1750. But we know from his notes that Marchmont was already growing it in '54. It provided green food for cattle. As another example let us take turnips. Marchmont cannot here claim to be the originator; Lord Kames sowed the first turnips in Berwickshire in 1746, and Mr Pringle of Coldstream is usually credited with being the first in the county to cultivate turnips in drills, in the year 1755. But Marchmont was giving instructions two years before that for the preparation of a field, by ploughing into narrow ridges, for the sowing of turnips.

In an entry of 1754 it is stated that the old Deer Park was to have a *ridge* between each row of turnips, this to be *drilled* with pease. Nevertheless, whatever may have been the reason, it would appear that the experiment of growing turnips was not a success, for of one lot we learn that they "misgave," and we hear of no further orders being given in this respect after this date. Nor were potatoes, which Berwickshire was the first county in Scotland to cultivate, neglected. In 1747 we hear of a small field being cropped at Cothill, and in '57 the north side of the Long Avenue was sown with potatoes, but on the whole their cultivation seems to have roused but little enthusiasm, and from one entry advocating the planting of "a little valley full of thistles" with this crop Dr Maxton deduces that the use of inferior soil for many of these novelty crops may go some way to explain why they so frequently failed. The same thing applies to carrots, the first mention of which occurs in 1756, when instructions were given for carrots to be sown by hand to the extent of 3 lb. per acre. But either the crop was a failure, or else the proprietor could not make profitable use of it, for the experiment was not repeated.

And now for a glance at the stock carried on the farm of those days, and the implements employed in the working of it. A comparison of stock prices at Marchmont with other parts in the mid-eighteenth century shows that whereas they were higher than those obtaining in the Highlands they were a good deal lower than similar prices in England. All prices tended to rise as the century wore on, but it would appear doubtful if, for example, during the 'seventies 32s. a head was ever paid for Scottish sheep as it was in England. Ewes ranged from 6s. at the beginning to 12s. at the close of the century. Wedders showed a proportionate increase. The price of cows rose from £2, 10s. at the

beginning to £5 in the 'forties, and £12 at the end. Black cattle ranged from £3 in the mid-century to £6 at the close. But the most marked increase seems to have been in the case of horses, where mid-century prices were doubled forty years later. This was probably due to the substitution of horses for oxen for labouring and draught purposes. In the south of Scotland up to the middle of the eighteenth century four or six animals, horses or oxen or both together, were generally employed to draw the plough. The records show that this was the practice at Marchmont even during the latter part of the century. This was, however, in respect only of the old Scots plough. The newer "chain plough" (so called because it was drawn by a chain fixed to the back part of the beam immediately in front of the coulter), however, which was first introduced into Scotland in 1754 by Mr James Small in Blackadder Mount, required eight animals to draw it. These usually consisted of six oxen and two horses. This large number was necessary because of the small build of the farm horses of that day; 15·2 hands was the average height, while the oxen, fattened at about seven years old, seldom exceeded 8 cwt. live weight. The Marchmont Inventory Book for the year 1754 gives the names of the various horses and oxen on the estate, together with those of the hinds who had charge of them. One is not surprised to find that most of the families working then on the estate are well known there to-day also—Jeffreys, Dodeses, Purveses, Patersons, and Moffats—good Berwickshire names all. The horse's nomenclature is likewise little changed. We find a Dapple, a Beauty, a Lucky, a Blaze, and a Brisk. The names of the oxen which drew the plough are, as the race is now no more, of more interest. They are put down in couples: Brecky and Bonnyman; Hairy and Lightfoot; Mettle and Doughty. As regards transport methods, it is

somewhat surprising to learn that carts were not in common use much before 1760. This was, of course, due as much to the impassable condition of the roads, which would have rendered them useless anyhow. And when I say cart I mean, of course, the modern form of that vehicle. What was used in Berwickshire and elsewhere in Scotland at the period of which we treat was either the tumbril, in which wooden wheels revolved with the axles, or pack-horses with wicker creels suspended one on either side. The tumbril had the additional merit of cheapness, being obtainable up to the end of the century for about 7s. as compared with the £5 demanded for the close or long carts.

I have, in the preceding notes, merely skimmed the vast amount of information existing relative to the estate and its working. No other course was possible, and I shall not strain your patience any further except to add a word on the interesting subject of rentals. The value of agricultural holdings increased enormously during the eighteenth century. The total rental of Marchmont multiplied itself nine times in the eighty years from 1740. Nor, as Mr Maxton points out, were such enormous increases peculiar to this particular estate. It is in fact more likely that as compared with elsewhere they were low. An estate situated mainly on the slopes of the Lammermuirs would not invite that competition which land lower down and of better quality would attract. For in general the nearer to the Tweed and to the ports of Berwick and Eyemouth the greater the demand and the more valuable was the land. To take two more examples of rent variation which show, as in a graph, the ups and downs of the industry over the period under review, the farm of Polwarth Mill had a rent in 1728 of £23 (British, not Scots); ten years later it was down to £20, and in 1741 a further reduction was made to £18. By 1763, however, it had

risen to £30; twenty years later it was £38, and in 1804 it reached £40. The farm of Whiteside which was rented in 1728 at £17 was let fifty years later for 19 years at an annual rent of £40. Many more such examples could be culled from the voluminous MSS. referring to Marchmont at that time, but I have quoted enough I hope now to give some idea not only of the richness of the material but also of the conditions in those, to us, so far-away days. Such glimpses of the past seldom fail to give rise to reflections of a moralising kind. I do not intend to weary you with any of my own. It will suffice if we realise that our forebears, whether in the eighteenth century or another, were men and women very like ourselves, neither better nor worse, who faced the pressing problems of their day and generation with that inextinguishable patience and courage which I believe to be symbolic of the race now as then.

Reports of Meetings for the Year 1938.

THE first meeting of the year 1938 was held on Wednesday, 25th May. 156 members and friends met the Vice-President, Mr Scott Allhusen, at Seahouses. The morning was pleasant and dry, and the sea on its best behaviour, and no one had therefore any complaint to make in spite of the somewhat lengthy business of getting aboard the fleet of 14 fishing boats. On leaving Seahouses the boats proceeded by way of the Crumstone and Knivestone, and had occasional views of the grey or Atlantic seals when they came up out of the water to see what was going on. These seals breed in the autumn, and the Farne Islands and the Outer Hebrides are the only breeding stations in Britain.

A landing was made on Staple Island, which lies close to the Pinnacles, famous for the number of its nesting population. Mr J. M Craster gave a most interesting account of these seabirds and their nesting habits, of which he has made a special study, having stayed on several of the islands for some days and even weeks at a time. The Brownsman Island has one of the largest colonies of the Sandwich Tern in the British Isles; the nests are so close together that it is impossible to walk without harming the eggs, and the National Trust very wisely no longer permits visitors to land on that island. A few pairs of the Roseate Tern also nest on the Brownsman. Mr Craster also spoke of the Kittiwakes, Guillemots, Puffins, Eider-duck and Shag or Green Cormorant.

Returning to the boats, members proceeded to the Inner Farne—the largest of the group—made famous by St Cuthbert. The chapel, dating from 1350, and the castle or tower, built about 1500, were seen with interest.

Mr Halbert Boyd gave an inspiring talk on St Cuthbert and his life and death on this lonely island.

As the tide made it necessary to leave for the mainland earlier than had been expected, members were disappointed not to have a second talk on the birds from Mr Craster. Colonel Leather also was to have spoken on Grace Darling, but very kindly gave his address after tea, when 84 members and friends

under the Vice-President listened with great interest to the vividly told story of the wreck of the *Forfarshire* and the brave rescue of 100 years ago.

Several articles which had belonged to the Darling family, including the flag of the *Forfarshire*, a brooch, a flask, and snuff-box were brought by Mr McCreathe and handed round for inspection.

The following new members were elected: Hew Stevenson, Tuggal Hall, Chathill; Albert Ernest Bloomfield, Stowan, St Boswells; Mrs D. H. E. Tancred, Old Free Manse, Crailing, Jedburgh; Col. H. C. Agnew, Bonjedward House, Jedburgh; Maj. Charles M. Forster, O.B.E.; T. D. Etherstone, Bamburgh; Mrs G. E. Forster; Col. F. C. Molesworth, Culworth, Bideford, Devon.

2. The second meeting of the year was held on Thursday, 16th June. 100 members and friends met the President, Captain J. H. F. M'Ewen, at Eccles village. The church was visited, and members listened with interest to its history from the Norman foundation when it was dedicated to St Cuthbert, its rebuilding in 1250 and rededication to St Andrew, down to more recent times and alterations, as told by the present minister, the Rev. J. M. Douglas. Mr Douglas also spoke of the ancient nunnery which was founded at Eccles about 1154 and dedicated to St Mary. This nunnery was of considerable importance. After seeing the old collection ladles and the dead bell in the church, members inspected some of the old tombstones outside, and then walked through the grounds of Eccles House to the nunnery ruins which still stand to a considerable height, and are well preserved and cared for. A return to the cars was made through the gardens and by way of a narrow and overgrown path, which is still known as the Nun's Walk. Members next drove to Marchmont, where the President gave an interesting talk on the owners of Marchmont. The house was built in the eighteenth century, being completed by the third Earl of Marchmont about 1760, and is generally believed to be the work of the famous brothers Adam, who are known to have built Mellerstain and Paxton House. In 1912 Mr R. F. M'Ewen—the present owner's father—bought the estate, and asked Sir Robert Lorimer to restore the house,

which was in a much neglected state. The beech avenue in front of the house is over a mile in length, and was planted 4 trees deep all the way. This was the work of one of the Earls of Marchmont.

Members were then taken over the house, where Capt. M'Ewen called attention to the fine proportions of the rooms, the beautiful ceilings, pleasing fireplaces, and valuable pictures. The Home flag or pennon, considered to be one of the oldest in the country, was also of much interest.

The original house, known as Redbraes, was seen, and also the gardens. The lovely weather made members anxious to linger over the flowers and trees both in admiration and enjoyment. A very fine specimen of the Arbutus tree was of especial interest.

A move was next made to Greenlaw, where a short visit was paid to the church, the main interest of which is the tower, which was built originally as a jail in 1712. The old Mercat Cross now stands against the west wall of the church tower, but has lost the Lion Rampant of Marchmont which once surmounted it. Tradition says it was erected in 1696 by the celebrated Sir Patrick Home. The Town Hall was also visited.

Over 40 members sat down to tea with the President in the Blackadder Hotel.

The photograph of a cist—Bronze Age—which had been exposed by a plough at West Horton was brought by the Editing Secretary and handed round for inspection.

2A. An informal meeting was held on Thursday, 30th June.

In spite of the rather unsettled weather 30 members and friends met the Vice-President at Catcleugh Reservoir. The extensive rock garden was inspected with interest. There were some heavy showers while the power-houses were visited and the machinery, etc., explained by Mr Rankin, the manager in charge. Mr Robert Craigs then gave a most interesting talk on the bird life of the local water and woods, with both of which he is keenly familiar. Members enjoyed the first-hand and accurate information, all of which was given with the quiet modesty of the true naturalist. During the walk which followed, Mr Craigs pointed out various plants, especially Pyrola minor, which has reappeared after lying dormant for

many years owing to the work on the reservoir. Out on the moor a station of the Filmy fern (*Hymenophyllum radicans unilaterale*) was visited, and the weather having now cleared, the sun brought out the lovely wild scents and the fine moorland views. On the way back a gold crest's nest, near the top of a fir tree, was pointed out.

3. The third meeting of the year 1938 was held on Thursday, 7th July.

The morning was grey and raining, and the same conditions lasted all day, but in spite of the depressing weather 120 members and friends met the President at Chillingham village.

Little now remains to be seen of the Norman church save the doorway, which is enclosed by a more modern porch. Mr Hunter Blair gave a most interesting and informative talk on the building, and upon its chief glory, which is the tomb of Sir Ralph Grey, who died in 1443. The carving is very fine, and the whole monument is unique in the northern part of the country. Its size is most impressive in so small a church. Members were taken round the tomb in relays, and Mr Hunter Blair was most painstaking in his explanation of the many details of the elaborate carving, which still shows traces of the colour which at one time made all such monuments brilliant to the eye amid their often dark surroundings. It had been hoped to make a tour of the extensive park on foot, a walk of some four miles having been planned with the aim of getting a good view of the fine herd of wild cattle for which Chillingham has always been famous. The weather made the walk out of question, so the President decided to visit the cattle first in hope that the rain might become less persistent.

Chillingham Castle consisted originally of corner towers connected by a curtain wall. Licence to crenellate was granted in 1344. The castle was restored by Inigo Jones. Members were admitted to the inner courtyard, a privilege now denied to visitors, where Mr Hunter Blair gave a full, racy, and interesting talk. Word having been brought by the keeper that some of the cattle were not far from the edge of the park, a large number of members decided to brave the wet ground, and were rewarded by seeing several of the fine herd at no great distance.

The Vice-President read some notes giving details of the wild cattle which have been in the Park for 700 years. Thirty members sat down to tea in the Cottage Hotel, Wooler. A specimen of Deadly Nightshade (*Atropa belladonna*) gathered in Chatton churchyard, and another of Henbane (*Hyoscyamus niger*) from Newmills, Berwick-upon-Tweed, were brought by Mr John Brown, Berwick, and handed round for inspection.

3A. An informal meeting for the study of flowers was held at Stichill Linn on 19th July.

After some hesitation in the early morning, the weather cleared and warm sunshine greeted the 16 members and friends who met the Vice-President at Stichill House gates. It had been hoped to locate the Hoary Potentilla (*Potentilla argentea*), which was found on the previous visit, but as this could not be done a move was made to Newton Don, in order to visit the picturesque spot where the little river Eden falls over a high ledge of rock, and is known as Stichill Linn. The recent rains were both noisily and deeply apparent, and it was found impossible to cross above the fall to reach a patch of the Shining Cranesbill (*Geranium lucidum*) which could be clearly seen on the opposite bank. Some time was spent looking at the trees and wandering about the woodland paths down by the lake, which showed a fine patch of Mare's Tail (*Hippuris vulgaris*). A pleasant time was spent admiring the fine grouping of various coloured primulas and other flowering plants in the water garden, which has been finely placed close to a quiet stretch of water and against a background of trees. In the afternoon the main gardens were visited, and members saw with interest various seedlings which were just appearing from seeds gathered in Tibet. The fine trees in the park and the view stretching south and west to the Cheviots and Ruberslaw made members linger pleasurable in the sunshine and brought out an expression of the feeling that the informal meetings are much enjoyed.

Mr John Brown spoke of the large number of wild flowers which have been recorded from this district, and many were again gathered on this occasion.

4. The fourth meeting of the year 1938 was held on Wednesday, 10th August. A dull morning—in many places one that

was densely foggy—showed courage on the part of members who met the Vice-President to the number of 180 at Ancrum Bridge, and were rewarded by a perfect day of brilliant sunshine. The old and present bridge and also the new and future bridge over the Teviot at this point were seen with interest, while a historical account was given with great clearness and valuable detail by Mr Wells Mabon. A plan of the new bridge was kindly shown by the builders, and members were interested to see the actual work in progress with sections of the proposed parapet. Returning to the cars a move was made to Timpendale Farm, where cars were parked before a short walk was undertaken to reach Timpendale Castle. The ruins of this fifteenth-century tower stand on high ground, but are almost completely hidden by trees. Professor George Watson of Chicago, who used to know this part of the country intimately, gave a careful and informative talk on the castle and its owners. This was the club's first visit to Timpendale. In the afternoon a very enjoyable time was spent at Jedburgh Abbey, where Dr James Curle spoke on the recent excavations which have been and are still being carried out by H.M. Office of Works. The sunshine, the lovely gardens, and the quiet and stately peace of the Abbey and its surroundings tempted many members to linger delightfully until it was necessary to repair for tea to the Spread Eagle Hotel, where some thirty sat down. Snapshots of birds taken at the Farne Islands were brought by Mr Elliot, and post-cards of Timpendale Castle were distributed by Mr Easton to any member who was desirous of having a copy.

5. The fifth meeting of the year 1938 was held on Thursday, 8th September. A perfect harvest morning brought 160 members and friends to meet the President at Ettrick Bridge. Kirkhope Linns were seen with interest from the manse garden, and many members ventured down the narrow track and rough steps to have a closer view of the Ettrick as it rushed over the rocks. The Rev. N. G. Kesting in a few words reminded members that Sir Walter Scott's last visit to Ettrick was to view the Kirkhope Linns. Returning to the cars a move was next made to Kirkhope Tower, standing tall and grey in the midst of the Border Moorland country, where to-day the purple heather and the green grass and bracken lay spread on

every side, and warm still sunshine brought out all the rich scents and sounds of late summer. Mr Will Rutherford gave a most interesting talk on the history of the tower itself, and the life of those who had lived therein times long past. A beautiful silver spoon, one of two found near the tower, was brought by Mrs Muir and handed round for the interested inspection of members. It is of the late sixteenth or early seventeenth century, pronounced by experts to be a very fine specimen.

Cars next proceeded some four miles up Ettrick, and took the cross road for Yarrow, pausing by the shepherd's cottage to walk about half a mile to visit the Hart Leap, a record, marked by two grey stones, made when James V was deer-stalking in the Border country. Mr Halbert Boyd gave a short and graphic account of the incident. Returning to the cars, a move was made to Whitehope, where the Cymric battle or Liberalis Stones were the gathering place for Mr Halbert Boyd's talk on the Dowie Dens of Yarrow. It is seldom that members are so fortunate as on this occasion in having the past brought so vividly before them. Mr Boyd's careful study of detail, imaginative insight, and the poetry that comes from a deep appreciation of life with all its wonders, its failures, and its possibilities, combined to make this a very memorable talk.

Seventy members and friends sat down to tea with the President in Broadmeadows Hotel. An ancient javelin head, dating in all probability from 590 A.D., was handed round for inspection. Specimens of the Grass of Parnassus (*Parnassia palustris*) were gathered during the day.

The following new members were elected: Commander John Gordon Boyd, R.N. (Ret.), Whiterigg, St Boswells; Miss Mary Gamble, Roselea, Kelso; Rev. George Robert Wilkinson, The Glebe, Bamburgh.

6. The annual business meeting for the year 1938 was held in Berwick on Wednesday, 5th October. Some 60 members and friends met the President in the Kings Arms Hotel at 2.15 p.m.

Captain M'Ewen was accorded a warm welcome, all greatly appreciating the fact of his having spared neither time nor effort to be present at the meeting. Having spoken in the

House of Commons the previous afternoon, travelled down overnight, he was preparing to catch the 4.5 p.m. back to London in order to be in his place for an important division at 11 p.m., a record of which the Club felt it had good reason to be proud.

The Presidential Address was listened to with much interest, and brought clearly before the present-day mind how men lived in the days of nearly 300 years ago. Captain M'Ewen then appointed his successor in office, Mr Scott Allhusen, and in doing so handed him the flag which is now used to distinguish the President's car. Mr Allhusen in accepting office thanked Captain M'Ewen in the name of the Club both for his address and for the way in which he had carried out his Presidential duties during the past year. Captain M'Ewen in replying said that he greatly regretted having had to miss being present at several meetings during the season, but a three-line whip did not leave much room for private inclination.

Mr Allhusen then nominated the Rev. Alan E. Swinton, of Swinton House, Duns, as Vice-President for the following year. This was approved by the meeting, and Mr Swinton in accepting said that he was greatly honoured in being asked to serve in a position which had already been held by so many distinguished men.

The following business was transacted:—

SECRETARY'S REPORT.

A successful season has been enjoyed during 1938, the weather aiding in this to a large extent. The July meeting—Chillingham—was very wet indeed, and members were disappointed both of the charming surroundings and of a good view of the famous herd of cattle.

The May meeting to the Farne Islands was favoured by a fine day and a calm sea. Marchmont in June proved a most interesting meeting, and was well attended, although so recently visited. August and September enjoyed perfect weather. Timpendale Castle and Kirkhope Tower were two places not previously visited by the Club. Two informal meetings were held in addition to the five monthly meetings, and proved of interest to those who attended.

Fourteen new members have been admitted during the year, and there is a considerable waiting list. Since the last annual meeting the following have been lost to the Club through death: Hereward Brackenbury, C.B.E., J.P., Tweedhill, Berwick; Mrs Biber Erskine, New Mains, Dryburgh; A. W. Hardy, Harptoun, Kelso; Dr J. S. Muir, Thorncroft, Selkirk.

The Secretary would like to thank the members for their patience and kind courtesy at all times and in every connection during the past season.

The following notes of interest have been sent in:—

Zoology.—Three Roe-deer are reported from Dreeper on Tweed. They were seen—and two of them shot—on 1st January 1938.

Dr James Curle reports having seen a lizard at Kelsocleugh at the head of Bowmont Water on 25th August.

Mr Robert Craigs reports 5 adult Adders seen in one coil near the old Rookin limeworks on 23rd July.

Ornithology.—Reported too late for last year's entry from Whitmuir, Selkirk, a Short-eared Owl, with a badly broken wing. The wing was bound up and the bird given food, but it unfortunately died after three days.

Mr Craigs reports Water-rail on a pond at Beal, 1st January. Three Crossbills at Catcleugh on 1st July. A Hawfinch at Catcleugh on 15th August. A Goldfinch's nest with four young at Cessford on 28th August.

Mr Wm. Aldyn Craw reports a pair of Willow-tits at Pauperhaugh in Coquetdale on 10th April. Three or four Goldfinches at the Eagle Inn near Lauder on 7th April, a pair on the Lauder-Earlston road on 4th June, and a pair at Mertoun on 12th June. An immature Hawfinch, dead, in Aikengall Dene on 2nd July.

Botany.—Mr Robert Craigs reports Green-ribbed Spleenwort (*Asplenium viride*) found on a whin cliff up Cottonshope Burn on 16th July.

Geology.—Found at Lamberton early in 1938, two specimens of the Lower Carboniferous fish, *Megalichthys* sp. and *Rhizodopsis* sp., also vegetable impressions which are probably stems of *Diplotrema adiantoides*.

TREASURER'S REPORT.

In asking for this, Captain M'Ewen expressed the great regret of the Club that Mr R. H. Dodds was unable to be there, as

he had had a bad accident to his knee which had necessitated an operation and now plaster-of-paris from foot to thigh, making any movement well-nigh impossible. Best wishes were voiced on all sides for Mr Dodds's speedy and complete recovery. Mr J. B. Duncan then read the report.

The Flodden sub-committee's report was given by Colonel Leather, who said that along with Mr Dodds and Mr Brown he had gone into the matter, and though their first idea had been a wooden military fence to enclose the increased ground which was being taken in, it was finally, and he considered more successfully, decided to have the existing granite posts moved out, and merely get a new and longer tubing placed between them, the estimated cost to be some twenty pounds. The meeting agreed that this work should be carried out.

On the proposal to introduce sections for the Natural Sciences, the Secretary gave a brief outline of the idea, which was to have various leaders who would arrange small meetings which members interested could attend. Unfortunately, members were more concerned as to how such an innovation was to be organised than in voicing their feeling for or against the idea, so that without much to go upon in the matter of its being desired, it was left to the Council to draw up a scheme as to its carrying out.

The office-bearers were re-elected on the proposal of Captain M'Ewen.

The following new members were elected: Lieut.-Col. Alan H. C. Swinton, M.C., Kimmerghame, Duns; Miss Mary Runciman, Shorestone Hall, Seahouses, Chathill; Henry Gilfred Baker Cresswell, Preston Tower, Chathill; Mrs William R. McCreathe, Cheviot House, Castle Terrace, Berwick-upon-Tweed; Mrs Alice Boyd Riddell, Osborne Road, Tweedmouth, Berwick-upon-Tweed.

Mrs Bishop was thanked for her attendance as delegate for the Club at the British Association meeting.

A long list of suggestions for places of meeting sent in by members was read by the Secretary. It was left to the Council to draw up what seemed a suitable and workable list for 1939.

It had been hoped that the memoirs of Sir George Douglas, Bart., which have been selected and edited by Mr Oliver Hilson, would have been published in time to be on view at the meeting,

but owing to some delay in the printing this was not found possible. The Secretary expressed the regret of Mr Oliver Hilson, and also spoke of Mr John Smith's efforts to hasten the printers in the matter, and the interest being taken in the memoirs by both the Edinburgh and Glasgow Borderers' Associations. There being no further business, members adjourned for tea. A return was made to the hall at 4.45 p.m., when a most interesting and enjoyable hour was spent in seeing three reels of coloured "line" film, photographed and shown by Mr H. Hargrave Cowan. These included one taken in the United States of the Yosemite Valley and National Park, and two of various points of interest and beauty in this country. These latter contained quite a number of records of the Club's activities during the past season—at the Farne Islands, Ancrum Bridge, Jedburgh Abbey, Ettrick Bridge end, Kirkhope Tower, and the Dowie Dens of Yarrow. Mr Cowan was warmly thanked by Mr Scott Allhusen for the trouble he had taken and the enjoyment he had given.

This brought the meeting and the season to a successful conclusion.

TIMPENDEAN CASTLE.

By Professor GEORGE WATSON.

TIMPENDEAN CASTLE is situated about three miles north-north-west of Jedburgh. It is readily accessible by striking off south-eastwards at Timpendale farm-house (standing close by the Jedburgh to Denholm road) and ascending the slope by the farm road. In the third field the stronghold stands embowered among umbrageous trees that prevent it from being readily seen from the main road in the vale below.

In early days my comrades and I were wont to visit this ruined pile, which we dignify by the name of "castle," but which is really a simple form of Border fort. Those triple dykes of earth seen on the west of the field we boyishly regarded as defensive earthworks constructed to be manned by stout archers of the Douglas clan for the determined defence of the family stronghold and the resident laird. While Macgibbon and Ross, in their all too brief account of this fortalice,¹ regard these constructions either as having "been intended for defence" (presumably of the castle), or as forming part of the garden, I am convinced that the origin of these embankments is vastly older and thus to many the more interesting. Though in the Club's Proceedings for 1882, James Geikie drew attention to a "circular fort or camp" on Lanton Moor, and to "the remains of a camp" on the same moor "east of Timpendale Tower, at corner of a plantation," he failed to note the signification of the triple valla still existing in these precincts.

We have here, obviously, the extensive remains of an old British camp or family stronghold, which consisted of a large space enclosed in those very early times by three circular palisaded dykes or circumvallations extending in width from the roadway on the west to the small ravine on the east. These valla have been weakened on the north side, while on

¹ *The Castellated and Domestic Architecture of Scotland*, 1889, vol. iii, pp. 421-3.

the east they have entirely disappeared, perhaps in levelling operations when or not long after the fortalice was built. Entrance to the enclosure and thus also to the fortalice from the roadway is obtained on the south-west through a gap in these dykes. Though this gap may be a cutting made in medieval times, not improbably it is the original old British entrance; and those knolls on the south of the passage may be weather-worn remains of entrance defences. The road running close by was an ancient highway (still earlier presumably an old British track) from the direction of Jedburgh, past Sharplaw, Monklaw, and this fortified place, which, after descending the steep slope now in view, crossed the Teviot by a ford. Thus traversing the classic river, this road continued on to join the main one to Ancrum at Ancrum West Mains.

This fort was protected on the north by a sharp ascent, and on the east by a small glen, watered partly by two springs that are in evidence quite close to the castle. There is presented the very interesting circumstance of this situation having been chosen twice—with a very long interval of time—as the site of a fortified dwelling-place. The types of fortress were vastly different, but suited to the needs of the widely separated times. Yet in common they had need of a commanding position with natural defences on two or more sides, access to a highway, a supply of water, and an extent of tillable land. From such vantage ground the approach of an enemy afar could be observed over an extensive tract of “bonnie Teviot-dale” and the lower valley of the Ale.

Environed thus, this fortalice is somewhat small; and measuring as it does 24 ft. from north to south and 29 ft. from east to west, it is almost square. The walls are normally about four feet thick, and in the basement they are pierced with shot-holes. In the north wall is a plain, circular-headed opening which forms the entrance doorway of this old-time edifice. Besides the inner recess for the stout wooden door, there is an outer rebate for a defensive iron gate, the “yett” of the medieval fortalice. Lighted only by a small window west of the north door and by feeble beams through the shot-holes, the basement forms a gloomy vaulted chamber, in which doubtless the more valuable stocks from the outbuildings were stored when an attack was feared. Opposite this entrance

door is the passage to the cellar.¹ The fireplace is regarded as probably a later insertion in the stout western wall of a comfortless apartment. In the north-east corner of this ground floor a stone circular stairway leads² to the first story—nearly on the level of which a stone sink is inserted in the staircase wall. The first floor consists almost wholly of a hall measuring roughly 17 sq. ft. and lighted presumably by windows in the north and south walls, whose collapse has removed evidence of the number and size of these openings. In the west wall of this hall is the large fire-place which served the scions of the doughty Douglas for purposes of entertainment, hospitality, or repast. On the east side of this first story is a vaulted recess or small chamber. Above the hall were two more stories, which were reached by means of a stone circular staircase (long since collapsed) in the north-eastern corner, and served the purposes of retiring rooms and bedrooms. The timber flooring and even the joists have disappeared long ago. The lower of these stories (which had a lofty ceiling) is provided with a large fire-place in the eastern gable. Light was admitted to the upper story by a window in the western wall. The attics were doubtless mainly lighted from the roof. The eastern attic room or rooms had two recesses in the gable.

Though the family of Douglas of Timpendale was founded in 1479, the tower is undoubtedly of later date. The family home first built here towards the end of the fifteenth century was doubtless a modest edifice of stone and timber. But when in 1535 parliament enacted that each important Scottish landowner should build a substantial stronghold “of stane and lyme”—and that on a scale in accordance with the extent of his possessions—in order to defend himself, his tenants, and his goods in troublous times, a stouter, more durable structure was necessitated. As it was ordered that these strongholds should be finished within two years, the fortalice of Timpendale, if built (as is highly probable) in accordance with this edict, cannot be later than 1539 nor earlier than 1537. The edifice was built on a small scale; and subsequently, when

¹ Macgibbon and Ross, *Castellated Architecture*.

² The feature of the spiral stair in the corner immediately to the left of the door is also seen in the towers of Dryhope and Gamelscleugh (Selkirkshire) and various others.

increase of domains due to marriages with landed heiresses enhanced their importance, this sept of the Douglases duly found their ancestral home not sufficiently spacious or pretentious for their needs. Perhaps at the end of the seventeenth century, but more probably in the early half of the succeeding one, the grounds were elaborated, part being formed into a Dutch garden,¹ the outlines of which can still be traced. An earthen dyke running north and south about 28 yards west of the castle forms one outline of it, while an L-shaped sequence of holly trees (interrupted in one place by several spruce firs) marks two other confines, unless indeed the garden extended to the old British mounds, and thereby doubled its extent. The approach to the north door by means of an avenue was doubtless also formed at this period. At an undetermined date, but also probably about this time, an extension or addition on the west side of the ancestral tower was purposed, as is evidenced by the bond-stones or "tusks" which we can see projecting westward from the north and south walls respectively, and probably by the curvature hewn out of the western wall. An entrance door in the east wall was made about the same time, and doubtless also the fire-place in the ground story or basement was then provided. It is conceivable that the project of adding a wing was soon abandoned.

A plan of Timpendale Farm, drawn by William Crawford in 1791 (now preserved in the Marquis of Lothian's estate office), shows that the present farm-house was not then built, and that the old fortalice was still an occupied house, the property of "William Douglas, Esq." Standing in the "Cow Park" (as the precincts were then named), this edifice had an "Avenue" leading from its northern door directly northwards across the lawn and down the slope, where the line of it even to-day is quite clearly marked. The edifice is shown with a northern exposure, and is represented as having a dark-blue roofing, also windows of such number and regular arrangement as the existing north wall shows to have been impossible. The plan

¹ The Dutch garden was introduced by William III, who reigned 1689–1702. Prevailing in this country for about half a century, it was characterised by sloped terraces of grass, regular shapes of land and water, and an artistic arrangement of trees or shrubs often planted in pots and trimmed: Loudon's *Repton's Landscape Gardening*, London, 1840, p. 327.

further shows that the field immediately to the south-west of the castle was named the "Dovecote Park." The dovecote which this term commemorated has long since completely disappeared.

A time came, however, when the prosperous laird clearly saw that these stout walls had waxed old, that the rooms and the situation were comfortless, and that the water supply was inadequate. Conceivably, the tower was inhabited until about the time that the present mansion of Timpendale Farm was ready for occupation, early in last century. While the date of the abandonment of the fort as a dwelling has not been found, an approximation can be reached. When John Ainslie (a native of Jedburgh) compiled his map of Scotland in 1800, his Timpendale was still the old tower, and to him the present farm-house had no existence. Before 1822, however, when the Kinghorns, Cranston and Clark produced their map of Roxburghshire, Timpendale House had been built and the fortalice abandoned to decay. Eventually the upper north and south walls may have bulged and crashed with the superincumbent weight of the roof, leaving the gaps that are now so obvious. It was certainly a ruin in 1834.

This four-square tower, then, like many other Border peels, is of the simplest construction. There are no angles, or running galleries, or machicolations—only shot-holes and not over stout walls—to serve for purposes of military defence. Yet it is not improbable that the obvious collapse of masonry from the southern end of the east gable may indicate that a corner turret once overhung there from the second story upward, supported in part by the arch of masonry previously mentioned, and in part by the convergence of eastern and southern walls. If there was such a projecting tower, it must have collapsed from weakening of the mortar.

The chief protection of this Border fortalice or peel tower perhaps lay in its standing on a secondary road. There is indeed but one record of it in history—and that as a mere item in a list. When Hertford, burning to revenge the disgrace to English arms suffered at Ancrum Moor in February 1545, invaded the Borderland in the following September, he exacted fearful retribution. In the long list of places captured and burned, razed, or cast down, the two towers of Bonjedward, the Laird of Bonjedward's dwelling-house, and Timpen-

dean were included in the thirty-six places so treated "on the river of Tiviot."¹ What happened here we can only conjecture; it is possible that the distracted Douglases sought safety in the adjacent forest, and that a detachment of the invaders looted the deserted fort and fired such outbuildings as were built of wood.

The history of the owners of this fair estate invites notice. A few years after Bannockburn, the grateful Bruce thought good to reward the "good Sir James" with a large grant of Crown territory, including lands which he had helped to wrest from the English. Hence, on the 6th of May 1320, King Robert granted him the mercat town, castle, forest, and mains of Jedburgh, together with Bonjedward and other possessions. After they had been reoccupied for several decades by the Southrons, the Douglases again recovered them (except Jedburgh Castle) by force of arms. George Douglas, first Earl of Angus, who in 1398 became their owner, had a natural daughter, Margaret, who married Thomas Johnson. Subsequently, on 10th November 1404, Isabella, Countess of Mar (daughter of this earl), granted to her half-sister Margaret and her husband Thomas "the mains of Bongedwort with pertinents, and twenty merks of land near it—to be held by them in conjunct fee, and after them by John of Douglas and his heirs."² From this Douglas family, which in due course obtained more extensive lands and became influential (one being deputy warden of the Teviotdale sector of the Middle Marches in 1576), arose the Timpendale branch. By a charter, dated at Bonjedward on 1st July 1479, George Douglas of Bonjedward, with the consent of James, his eldest son and heir apparent, gave to his son Andrew "all and haill the lands of Tympyndean with its pertinents, lying within the territory of Bonjedworth, Regality of Jedworth Forrest."³

¹ Haynes' *State Papers* (1740), p. 53. It is possible, however, that the Bonjedward strongholds, or at least the laird's residence, did not suffer these harsh measures. For writing to Henry VIII on the 18th September 1545, Hertford stated that various local men, including the Laird of Bonjedward, came to him at Jedburgh and promised support of English policy. In return Hertford agreed to spare their dwelling-houses; but he informed his sovereign that their "fermes and all their cornes" were burned (*State Papers, Henry VIII*, vol. v, p. 522).

² See *Antiquities of Aberdeen and Banff*, vol. iv, p. 731; *Scots Peerage*, vol. iii, p. 155; and *Seventh Rep. Hist. MSS. Commission*, p. 727.

³ Nisbet's *Heraldry*.

To the charter the donor appended his seal of arms; and by a precept of sasine Andrew was proudly infest in his new possessions. His son and successor, Archibald, married a daughter of Peter Marshal of Lanton, and with her got some lands (the precept of sasine is dated 15th June 1517) which the family held till perhaps the early nineteenth century. The son and successor, Andrew, married Katherine, eldest daughter of William Gladstones of Lanton, and thereby increased his estates. When on 26th March 1551, the "auld band of Roxburgh" was drawn up and signed at Jedburgh, "Andro Dowglas of Timpindeane" was one of the numerous Border lairds who thus pledged allegiance to the young Queen Mary.¹ Andrew, the next in succession, married Margaret, daughter of Gavin Turnbull of Anerum Mill—the contract being dated 10th December 1562. On 10th February 1585 Andro (alias Dand) Douglas of Tympenden was charged to appear with others before the Privy Council because of suspected disaffection, but nominally concerning their obedience to the king and "the quieting of the countrie." Again, "Andrew Douglas of Tem-pindene," along with other Borderers, made a retour of inquest dated 14th May 1600. In the increasing family possessions, Stephen Douglas succeeded his father Andrew. He had wedded Jean, daughter of Andrew Halliburton of Muirhouse-law, the contract being dated 20th May 1595. Their son, John, who succeeded to the estates, had married into the family on 4th May 1632 by his union with Mary, eldest daughter of William Douglas of Bonjedworth. The next laird, their son William, who was retoured heir of his father in certain lands in "the toune and territorie of Langtoun" (now Lanton) on the 29th May 1655,² married Alison, daughter of John Turnbull of Minto, and grand-daughter of Sir Gilbert Elliot of Stobs—the contract being dated 27th July of that same year. Their son and successor, John, wedded Eupham, daughter of William Turnbull of Sharplaw, and descendant of Sir Archibald Douglas of Cavers, on 6th December 1679. This Eupham was a lady of independent mind, and refused to attend the Anglicised services of the church in the troublous times of Charles II. For this insubordination and other

¹ *Register of the Privy Council.*

² *Retours, Roxburghshire*, No. 217. Cf. also Nos. 272, 293.

irregularities, her husband and she were summoned to appear with other Borderers before the Privy Council in 1684, and the Laird of Sharplaw had to give a bond of caution for £1405 Scots for his daughter and son-in-law.

As the nearest proprietors, these lairds took great interest in the bridge across Teviot near here, and greatly helped the magistrates and town of Jedburgh in keeping it in repair. For these good offices, and in view of help in future repairs, the town council waived the bridge toll or duty on the goods and produce of the lands of Timpendale, Weaseldean, and Broomhall, in all time coming.¹ In 1695 the "Laird of Timpeden," and again in 1704 "—Douglas of Tinpindean" was a commissioner of supply for Roxburghshire.² The son and successor, William Douglas, who on the 22nd February 1718 married Jean, daughter of Thomas Rutherford of Rutherford, is given as ninth of the line by Nisbet the heraldist, who recorded about this time that the family arms were those of Douglas "quartered with these of Gladstones." These arms, featuring a heart surmounted by a crown, are illustrated in the plates of vol. ii of Nisbet's *Heraldry*, published in 1745.

Later in this century, Archibald Douglas of Timpendale, the tenth of the branch, became the representative of the Bonjedward family on the death of the last of that main line. He married Helen, daughter of Andrew Bennet of Chesters, and died on the 4th June 1781. His son and successor, William, served as a major-general in the army and was made a Knight Commander of the Hanoverian Guelphic Order. Marrying Marianne, daughter of Thomas Tattershall of Everton, Lancs., in August 1810, he had four sons and three daughters. Dying at his London residence on 14th of April 1834, he was succeeded by his son George, who sold the lands, house, and tower of Timpendale to the Marquess of Lothian in 1843, and died without male issue twenty-two years later. The family of Timpendale and also of Bonjedward is now represented by Henry James Sholto Douglas, Esq.,³ of Hemingford Abbots, Hunts., and of London, who continues the military traditions

¹ Jeffrey, *History of Roxburghshire*, vol. i, pp. 75, 76.

² *Acts of Parliament of Scotland*, vol. ix, p. 374; vol. xi, p. 140.

³ Burke's *Landed Gentry*, 1937.

of his great family, and has a warm attachment to this old Border pile.

In the earlier period of occupancy the Douglases of Timpendean held these lands in feudal tenure of the Douglases of Bonjedward, who again held their estates of the line of Angus as vassals of the king. When in 1528 James V escaped from the toils of the Earl of Angus, he disgraced that arbitrary step-father, restored Scott of Buccleuch to favour, and hence gave the latter many of the Douglas' lands, including those of Bonjedward and Timpendean. But in 1540 this king, "for good service," granted to William Douglas of Bonjedburgh, his heirs and assigns, the lands of Bonjedburgh with the tower and the grove, and the lands of "Tympendean," incorporating them in a free barony of "Bonjedburgh," the holders rendering yearly a red rose "in the name of blanchferm." On 15th January 1680, William Ker of Abbotrule was retoured heir of his father Charles in various possessions, including the teinds of the lands of "Timpendean."

The name is perhaps unique. At present, since we may not have the earliest forms, a decision as to the meaning of the intriguing place-name is not possible—beyond the fact that the termination "dean" apparently defines the small valley or ravine to the east of the tower. The early available forms of the first component are Timpin, Timpen, Tympen, and occasionally Tempin, Tempen, and Tempan. Now in the period 1587–1633 there are in the Register of the Great Seal of Scotland records of various place-names containing this first element, as Timpen (or Tympen) and Timpenbeksyde (or Timpeinbreksyde) in Dumfriesshire, and Tempanlay in Aberdeenshire. These—and perhaps even the Ross-shire (1587–1608) Tympan-myln or Tympane-myln—have doubtless a common origin with our place-name. When listed among Hertford's devastations in 1545, the place was recorded by the English scribe as "Tympinton." In the Jedburgh vernacular the place is endearingly named "Timp."

While this weather-beaten, time-battered keep does not figure stirringly in Border history, it stands perhaps unique in occupying the centre of a long anterior British camp of large extent. Abandoned to its fate early last century, this deserted fortalice fell to decay; and when writing the statistical

account of Jedburgh parish in 1834, Rev. John Purves recorded that "the ruins of Timpandean . . . still remind us of warlike times." Though four centuries old, the sequestered tower stoutly defies the ravages of time, though perforce it has suffered from some of them. Aptly and expressively Walter Laidlaw referred to

Timpandean's old castle grey,
Whose walls the fingers of decay
Are crumbling low.

Yet the two gables remain virtually intact—the western one being artistically surmounted by a graceful young tree. An excellent view of the hoary castle from the north-west, from a photograph taken about 1900, is given in *Poetry and Prose*, by Walter Laidlaw of Jedburgh, a former associate member of this Club.

NEWLY DISCOVERED CUP-MARKINGS IN NORTHUMBERLAND.

By E. R. NEWBIGIN.

ALTHOUGH various accounts of cup-markings in Northumberland have been published in recent times, it is clear that there are still many groups which have escaped attention or have not been brought under the notice of societies interested in prehistoric antiquities. This is partly due to the fact that many of the markings have been overgrown with vegetation or obliterated by disintegration of the rock. Another reason why certain groups have escaped attention is that in the early days it was mainly cup-markings with well-defined rings, grooves, ducts or other accessories which were deemed worthy of close investigation, while the small undifferentiated cups were frequently disregarded or looked upon as natural weatherings. Since, however, these small and sometimes insignificant cups may throw light on prehistoric problems, just as much as the more spectacular rock-carvings, it is important that they should be properly charted and recorded wherever possible.

A large group of cup-marked rocks of this somewhat insignificant type, which does not appear to have been noticed or recorded previously, has just come to light on the moors in the neighbourhood of Millstone Burn about 14 miles north of Morpeth on the main road into Scotland *via* Wooler. Attention was first called to a single marked rock at Wall End, south of the 14th milestone, by Mr A. R. Robson of Swarland Village, Felton. The markings on this rock are typical, the principal one being a well-preserved cup with two distinct rings and a duct. Nothing was visible in the neighbourhood to indicate prehistoric occupation, either in the way of camps, burial mounds or standing stones, but since these markings do not usually occur singly but in groups, further examination was made by the writer and some other members of this Club and of the Newcastle Society of Antiquaries.

The investigation, though not actually completed owing to the heavy growth of bracken, showed 37 rocks containing cup-markings. The area in which these occur consists of a belt roughly about a mile in length but with several considerable gaps and with a breadth of about 2/300 yards. It begins at a point about 750' above sea-level, a little east of longitude 1° 50' W., latitude 55° 28', on rough rocky ground overlooking Rimside Moor. The direction from there is mainly easterly, crossing the Alnwick and Wooler turnpike road 2/300 yards south of the 14th milestone, proceeding downhill to the Millstone Burn, where there is a considerable gap before the rocks reappear on the high ground to the north-east on Snook Bank Farm.

An overwhelming proportion of the markings consist of simple cups. A few have single rings and there are a very small number with double rings. There are a few basin cups and occasional groups of midgets, but very few ducts or channels. In these respects the markings differ materially from those in the neighbourhood of Doddington, where multiple rings and other patterns are abundant. They are in fact much nearer to the Rothbury group in general appearance except that they show no parallel examples of the exaggerated duct or groove found on some of the Rothbury stones.

The largest collection is on the high land adjacent to the Union and Rural District boundary fence which runs along the ridge sloping on the north-west towards Rimside Moor and on the south-east towards Millstone Burn. On this elevated area several of the rocks are of the familiar type of "high place" with an extended prospect in more than one direction. One of them contains no less than 60 well-defined cup-markings, 6 with single rings and 1 with a double ring. Adjoining and separated only by a yard or two is another outcrop, or rather a continuation of the same slab, which contains 62 markings.

A prominent feature of the whole group is that of cups lying flat or along the top of a sloping ridge of rock, a type which gives some support to the hypothesis that their intention was to hold offerings to ghosts or spirits.

On the other hand the absence of burial mounds makes one disinclined to lay any stress on this hypothesis.

The nearest large collection is 2 miles to the south-west across

the moors in the neighbourhood of Debdon Whitefield, where there are 3 large groups of well-defined mounds numbering at least 80 in all. Among these 80 mounds only 1 cup-marked stone has been found, but it would seem rather far-fetched to imagine any ritual ceremonies connected with these burials being held so far away.

A novel feature of the group is the way in which a large proportion of the marked rocks are either on the line of or closely adjacent to a series of trackways, which almost certainly represent an old pack-horse route. These extend without interruption for about 2 miles, beginning a couple of fields away from the ruins of Old Moor House, crossing the ridge already referred to and proceeding downhill to Millstone Burn, thereafter bending round in the direction of Canada farm and disappearing.

Whether the trackways can be linked up with any other routes there has been as yet no opportunity of investigating, but in any event they are clearly very much later in their present form than the cup-markings.

It would be interesting to discover whether there are any other cases of cup-markings following the lines of the moorland deep trackways which are so plentiful in central Northumberland. The only analogy known to the writer, and it is a poor one, is the case of the markings on what was evidently an old track crossing the Whitton Burn at Rothbury near where the Alnwick and Hexham road formerly passed. Close to the point of crossing there is a well-defined cup-marked rock, an unusual thing at so low an altitude, and further up the track there is another.

There are, however, other grounds for supposing that some of the present moorland trackways follow routes of prehistoric origin, and it is just possible that this may have been the case with the tracks under discussion. At the same time, although the cup-markings on the east side of Millstone Burn follow approximately the same direction as those on the west side, the trackways themselves appear to swing round in a southerly direction after crossing the stream. An interesting feature is that in their downward course from the turnpike road to the Millstone Burn the trackways divide and pass on opposite sides of a small steep knoll which contains two old slag-heaps, small

in extent but showing undoubted remains of iron smelting. So far no information has been obtained that might throw light on the period to which the slag-heaps belong.

It is interesting that the trackways and the site of the Devil's Causeway as marked on the Ordnance map cross the boundary fence at about the same place, though there is of course no surface indication at all of the Devil's Causeway.

SCULPTURED ROCKS, WEST HORTON.

By WILL. B. DAVISON.

STILL another batch of Rock Sculptures is to be added to those already recorded in North Northumberland.

What is thought to be an unknown series was marked down in September 1934 at West Horton, Chatton, Northumberland.

In the spring of 1938 a partial clearing of the site was made when a considerable number of sculptured figures, varying from single cups to elaborate and involved designs, was laid bare.

Later on, H. B. Herbert, Esq., M.A., visited the scene, removed more turf, and found that the "find" covered a larger area than was at first thought.

These markings occur on an outcrop of rock which is easy to find, whilst the place is so get-at-able that a car can be taken to the spot.

To reach the site, the field-path which runs through the gate on the Wooler side of West Horton Farm buildings should be followed until it turns left and uphill to Buttony Wood plantation.

The track should be abandoned at this point and the fence running straight ahead followed until within 77 yards of the wall which divides the grazing land from Horton Moor. The outcrop lies uphill from that point and near the 400-feet datum level.

The writer feels it to be quite beyond his powers to give a written description of the figures in this series, for many of them are very complicated.

What merits noting, and what is an outstanding feature, is the manner in which full advantage has been taken by those responsible for the work in making use of natural steps and flaws in the rock surface to lessen their labour.

These markings have been left uncovered and so are available for inspection. There is little doubt that the landowner and farmer—Mr Robson Murray—would grant permission to view. Did he not give willing leave for his land to be searched and dug over?

CHILLINGHAM—MANOR, CASTLE, AND CHURCH.

By C. H. HUNTER BLAIR.

(Given at Chillingham, 7th July 1938.)

I. THE MANOR.

THE steep height of Ros Castle, which dominates the surrounding country and beneath which Chillingham shelters, is crowned with the ramparts of a British hill-fort of late Bronze Age date, whilst the park surrounding the castle, “irregularly diversified by trees and scrub in the upland clearings and rushy hollows,” still presents to us “the authentic aspect of the primeval scene.” We know little or nothing of the people who built this and many similar forts on the surrounding hills, whose burial mounds and sculptured stone monuments are so plenteously scattered over the neighbouring moors.¹ The Romans have left even less evidence of their presence, only the Devil’s Causey, on its way to Tweed, strikes its straight course through the western part of the parish and tells us that the legions of Rome once passed near-by.² The evidence for Anglian occupation is even less—a name and no more.

Cheulingeham = “the homestead of Ceofel or of his sons,” which, however, first occurs in the Pipe Roll of 1186,³ alone remains as evidence of an Anglian settlement, with perhaps a few stones built into the walls of the present church.⁴

The first record of Chillingham in history is when William of Vesey (*d.* 1183), who held it as a member of the barony of Alnwick, gave it in free marriage to his daughter Maud upon her marriage with Robert of Muschamp (II), lord of the barony

¹ *A History of Northumberland*, vol. xiv, prehistoric section.

² *Ibid.*, pp. 68 ff.

³ Mawer, *Place Names of Northumberland*, s.v.

⁴ See *Post*, p. 49.

of Muschamp or Wooler.¹ The manor was held by this family until the death in 1250 of Robert (III)—“a man of great repute in the northern parts of England”—when it became the inheritance of his daughter and heiress Isabel, who married Sir William Huntercombe, lord of Huntercombe and Newnham in Oxfordshire, and of other manors in the south of England.

He had done homage and succeeded to his own inheritance in 1240, and on 20th May 1244 he had, with John of Grey, a royal gift of wine for their feast before receiving their arms at Whitsuntide. On 30th October 1250 he, together with Malise earl of Strathearn and Adam of Wigton, did homage for the Muschamp inheritance. He served in the Welsh campaign of 1257 and was summoned for military service from then until 1264. On 18th July 1270 he nominated attorneys before going to the Crusade with prince Edward; he died before 27th March 1271.² His son Walter did homage and had livery of his own inheritance and of that of his mother Isabel Muschamp on 4th June 1271. He was one of the most renowned of the knights of Edward I, employed in many offices of responsibility and trust and taking a prominent part in the Welsh and Scottish wars; he also acted as proctor for Sir William Vescy when the latter was a claimant for the Scottish crown. He was summoned as a baron to Parliament from 1295 to 1311, governor of Edinburgh Castle³ 1296–1298, and sheriff of the counties of Edinburgh, Linlithgow, and Haddington. On 25th November 1298 he was appointed lieutenant and commander of all the men-at-arms in Northumberland. He fought at Falkirk (1298) in the second “bataille” commanded by Antony Bek, bishop of Durham, as well as at the siege of Caerlaverock (July 1300), where he was in the king’s squadron; in the curious poem⁴ which narrates, in Norman-French, the incidents of that siege he is described as

“E di Hontercombe li beaux
De ermine o deux rouges jumeaux.”

¹ *Arch. Ael.*⁴, vol. xiv, pp. 248–249; see also *History of Northumberland*, vol. xiv, p. 325, which gives a different and less reliable account of this marriage.

² *Complete Peerage*, vol. vi, p. 637; *Harl. Socy. Publs.*, vol. lxxxii, p. 252.

³ Gough’s *Scotland in 1298*, pp. iv and 249.

⁴ *Poem of Caerlaverock*, ed. Wright, p. 16.

And the handsome Huntercombe [bore] ermine with two red gemelles. He was one of the barons who in 1301 sealed the Barons' letter¹ to Pope Boniface VIII. In September 1299 he was commissioner of array to choose 4000 men-at-arms in Northumberland, and in 1302 Keeper of the March of Scotland in Northumberland. He died without issue before May 1313. In 1306 he petitioned² the king for remission of scutage; in his letter he narrates his services—he had been in all the Scottish wars to that date, namely, in the first war at Berwick with 20 horse; at Stirling in the retinue of Earl Warren; with 32 horse at La Vaire Chapelle (Falkirk), in the retinue of the bishop of Durham, with 30 horse, and afterwards at Gaway (? Caerlaverock) with 16 horse, and to the last battle (1306) he had sent 18 horse, not being present himself as he was then Warden of the Marches in Northumberland. At his death he held a moiety of the barony of Muschamp, Chillingham manor, and an eighth part of many other manors in Northumberland in addition to his south country manors and lands. Nicholas Newbaud, son of his sister Gunnor by her husband Richard of Newbaud, was his heir.³ Nicholas assumed the surname of Huntercombe, and at an inquest on 10th October 1314 he held two knights' fees in Chillingham late of Henry Percy. He served against the Scots in 1314 and 1322, and in 1324 was summoned as a man-at-arms to the Great Council at Westminster, but was found to be qualified for knighthood. In 1320 he owed £600 in Northumberland, and in October 1324 agreed to settle the manor of Chillingham upon his son John upon his marriage with Constance, daughter of Sir John Lilburn, kt. This plan was never carried out, probably because of the early death of John; in 1327 Sir John Lilburn was prosecuting the execution of a recognisance⁴ for 1000 marks made by him to Sir Nicholas, who it appears had also mortgaged Chillingham to Sir Thomas Heton of Heton in Norhamshire. This was never paid off, and when Nicholas died in or about the year 1329 Chillingham appears to have passed to Sir Thomas Heton, who made a settlement of it in that year.⁵ In May 1343 Joan,

¹ *The Ancestor*, vol. vii, p. 255.

² *Poem of Caerlaverock*, ed. Nicholas, p. 226.

³ *Comp. Peer.*, vol. vi, pp. 632 ff.; *Harl. Socy. Publs.*, vol. lxxxi, p. 252.

⁴ *Harl. Socy. Publs.*, lxxxi, p. 263; *Comp. Peer.*, vol. vi, p. 635 n.

⁵ *A History of Northumberland*, vol. xiv, p. 325.

widow of Nicholas, granted to Thomas of Heton, kt., all the freehold in Chillingham, which had belonged to her husband, which she held in dower.¹

Sir Thomas Heton died in 1353 when Alan his son succeeded him, but his possession was challenged by Sir Henry Heton, the head of an illegitimate branch of the family, who took up arms and besieged the castle to enforce his claim. Sir Alan died in 1387 and Sir Henry² held the castle and manor peaceably until his death in 1399. William, his son and heir, died a minor in 1401, when Chillingham was divided between his three sisters Joan, Elizabeth, and Margaret, who in 1426 were found to hold that manor jointly. The rights of the two former appear to have been soon acquired by the Greys, lords of Wark on Tweed, but as late as 1518 the third of Margaret, who had married William Ogle, was the subject of an agreement between Robert lord Ogle and Edward Grey of Chillingham.³ The manor and castle of Chillingham remained a possession and the chief dwelling-place of this great Northumbrian family,⁴ whose history is in great part the history of the county, until it came to an end by the death in 1701 of the cowardly and traitorous Ford lord Grey of Warke who, after the Revolution, was thought worthy by William III, on 11th June 1695, to be created earl of Tankerville.⁵ He left an only daughter and heiress Mary who married Charles Bennet second lord Ossulstone, created earl of Tankerville 19th October 1714, since when Chillingham has belonged to that family.

The title of Tankerville was a memory of the Comté de Tancarville conferred in 1417, by Henry V, upon Sir John Grey, K.G., one of the most renowned scions of the family, founder of the lords Grey of Powis. He was the second son of Sir Thomas Grey of Heton and Wark and a companion in arms of Henry V in his French wars—one of the band of brothers who fought with Harry the king upon St Crispin's

¹ *Arch. Ael.*², vol. xxv, p. 67.

² In 1388 Henry had livery of the castle after making submission to the king and paying fine for his misdeeds (*Cal. Close Rolls*, 1388, pp. 391–392).

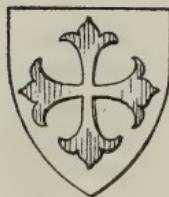
³ *History of Northumberland*, vol. xiv, pp. 327–328.

⁴ The large sheet pedigree in the *History of Northumberland*, vol. xiv, facing page 328, gives full particulars of this family, which need not therefore be repeated here.

⁵ *Comp. Peer.*, vol. vi, pp. 169–170, and notes.

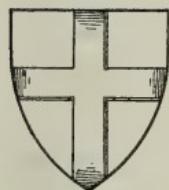
day at Agincourt. He again accompanied the king to France in 1417, was made captain of the castle and town of Mortagne and also of that of Tilly in Normandy.¹ He was number 134 in the succession of the Knights of the Garter, being one of the four appointed by Henry V whilst serving with him in Normandy. The king in the year 1418 kept the feast of St George in the castle of Caen, and it is highly probable that it was then that Sir John Grey and his three companions were made knights of that noble order.²

II. THE ARMORIALS OF THE LORDS OF CHILLINGHAM.



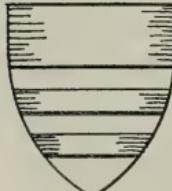
VESCY.

*Gules a cross patonce silver (Henry III roll).
For Sir William Vescy, c. A.D. 1240.*



Gold a cross sable (Jenyn's and St George rolls).

For Sir John Vescy and with a label of five points gules for his brother Sir William Vescy.

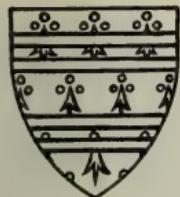


MUSCHAMP.

Gold two bars and a chief gules (Glover's Ordinary and seal of Sir Robert Muschamp).

¹ *Comp. Peer.*, vol. vi, p. 136.

² Beltz, *Memorials of the Garter*, pp. lix and clviii.

**HUNTERCOMBE.**

Ermine two bars gemelle gules (Falkirk and Caerlaverock rolls).

**HETON.**

Vert a lion rampant and a border engrailed silver (Jenyn's Ordinary and seals).

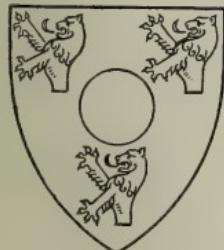
**GREY.**

Gules a lion rampant and a border engrailed silver (Roll of Edward III).



In *Nativity* roll of c. 1298 the above shield was borne with a *baston azure* over all by Sir Thomas Grey.

This is the earliest record of the shield.

**BENNET.**

Gules a bezant between three demi-lions rampant silver (Grant of A.D. 1600).

III. THE CASTLE.

Chillingham castle stands on the western side of its wild park where the high moorlands, after rising to over one thousand feet

at Ros castle, fall steeply to the gentler slopes of the fields in the valley of Breamish; its westward outlook is bounded by the rounded summits of Cheviot, whose “passages” from Scotland it was set to guard.

It is one of those greater castles, guarding the Marches towards Scotland, which stretch in crescent-shape from Norham on Tweed by Heton, Etal, and Ford to Chillingham and thence by Harbottle on Coquet to Haughton and Chipchase on North Tyne and so to Langley, Blenkinsopp, and Featherstonhaugh guarding South Tyne. These, with the many towers, peels, and bastle-houses,¹ were made necessary by the need of the inhabitants to protect themselves, their cattle, and their goods from the fierce and incessant forays of the Scots into Northumberland during and after the Edwardian wars. Nor was less protection needed from the raids of the lawless thieves of Tyndale and Ridsdale.

Chillingham was in the East Marches and with its fellows watched the passes of Cheviot; these hills were not indeed much of a barrier to raiders who knew them; there is historical evidence that between Cheviot and Kershopehead there were thirteen “passages”; “while the passages of the Scottes all along Rydsdale numbered twenty-three and there were seven Tyndale passages westward.”² There was a manor-house (*mansum*) at Chillingham before the middle of the thirteenth century, built in all probability by Robert of Muschamp III (*d.* 1250), who was one of the great men of Northumberland at that time. This house would, doubtless, conform to the simple plan of similar houses of the period. A large hall, with kitchen, and probably one or two chambers attached to it, with a solar or retiring room at one end, possibly on a higher level; such houses were often arranged around three sides of a quadrangle,³ and this may have been so at Chillingham. There must at any rate have been considerable accommodation in it, as Henry III spent two nights there in September 1255;⁴ personal friendship with Sir William Huntercombe may have

¹ A list of these castles and towers in 1415 names no less than 37 castles (*castra*) and 78 towers (*fortalicia*), *Arch. Ael.*,² vol. xiv, pp. 12–20.

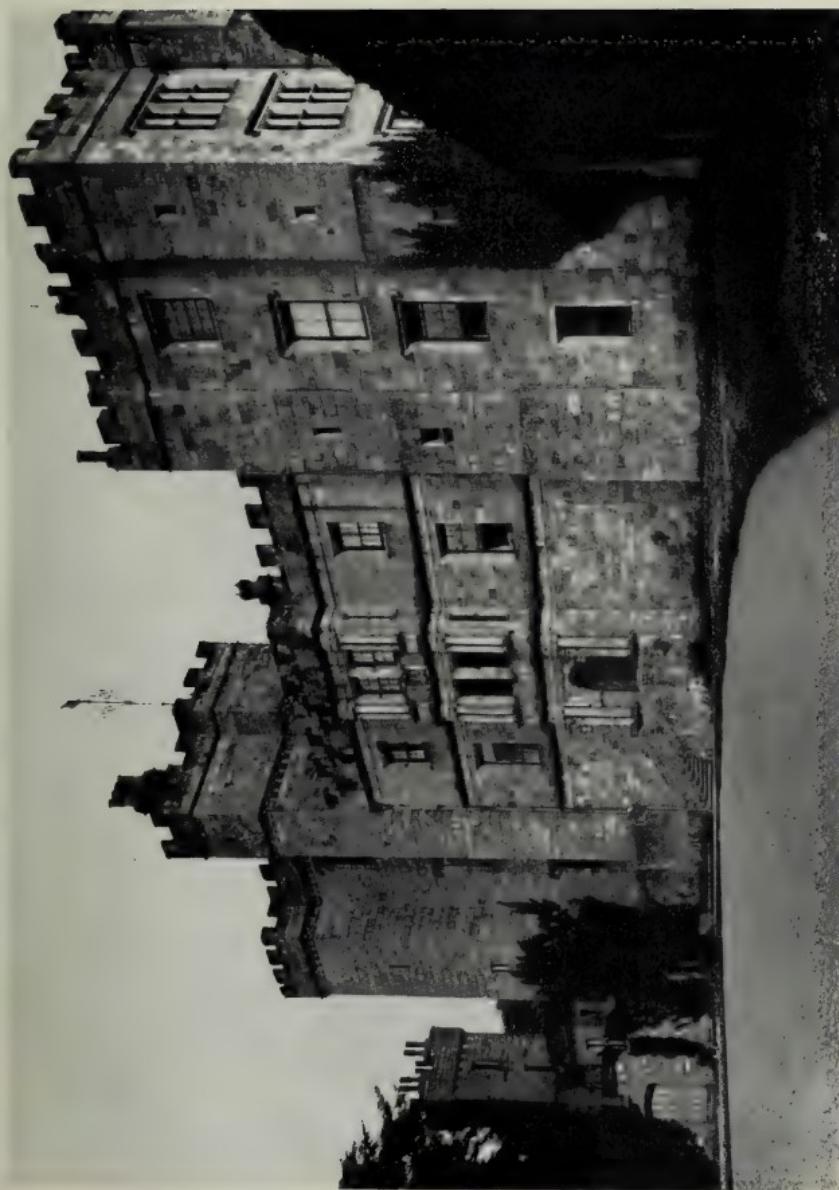
² *The Last Years of a Frontier*, by D. L. W. Tough, p. 29.

³ Turner’s *Domestic Architecture in England*, vol. ii, pp. 57 ff.

⁴ *Cal. Pat. Rolls*, 39 Henry III, p. 424.

NORTH-WEST FRONT OF CHILLINGHAM CASTLE.

[To face p. 44.





induced this visit.¹ Henry was then on his way to Scotland to release from certain nobles the young king Alexander III, whom he had knighted at York upon Alexander's marriage with Henry's eldest daughter Margaret. Edward I (*malleus Scotorum*) also stayed there on 1st and 2nd July 1298;² he came from Alnwick and went thence to Roxburgh on his way to Scotland to strike his hammer blow at Falkirk on 22nd July of that year. He stayed again at Chillingham, coming from Wark-on-Tweed on his way south on 20th October in the same year.³ This manor-house remained until 1344; on 27th January of that year Edward III granted a licence to his beloved and faithful Thomas of Heton to strengthen his house (*mansum*) at Chillingham with a stone wall, to crenellate it and make it into a castle.⁴ The work of transformation appears to have been completed by 1348. The general plan of this castle still remains, and certain parts of the masonry in the curtain walls and in the lower parts of the towers are probably of this date. It is similar in plan to other castles in the north of fourteenth-century date, namely, Bolton in Yorkshire (1339), Lumley in Durham (1392), and Ford in Northumberland near-by. The plan is a rectangle, whose curtain walls form the outer sides of the domestic buildings within, strengthened by a tower at each of its four angles, the gateway probably being on the south side. In this plan "the usual precautions for defence were carefully preserved and the outer openings in the walls interfered little with the general solidity of structure; the domestic buildings round the courtyard formed part and parcel of the fabric itself. They were not merely built up against or within the curtain but the curtain was actually their outer wall and not simply their defensive covering. In fact the manor-house in these cases was not a separate building within the enclosure of the castle; but the castle itself was also the manor-house."⁵

This fourteenth-century building has been greatly altered and added to in later years. The details of these additions and alterations have been studied by Mr H. L. Honeyman, who has written a careful and detailed account of them on pp. 330–345

¹ See above, p. 39. ² *Scotland in 1298*, by H. Gough, pp. ix and 48.

³ *Ibid.*, pp. xiii and 246.

⁴ See *Arch. Ael.*², vol. xiv, p. 297, where the licence is given in full.

⁵ *Military Architecture in England*, by A. Hamilton Thompson, p. 317.

of vol. xiv. of the *History of Northumberland*. To this readers are referred, as here only a much abbreviated summary, based upon this account, can be given.

Chillingham became the principal residence of the Greys, after they got possession of it in the first half of the fifteenth century, until well into the seventeenth; they do not appear to have made much alteration during the first hundred years of their tenure. The structure seems to have been damaged when besieged by Sir Thomas and Sir Ingram Percy during the rebellion, led by Robert Aske, in 1537, known as the Pilgrimage of Grace. Sir Robert Ellerker, its guardian during the minority of Ralph Grey after the death of his father Sir Edward Grey in 1531, refused to join the rebels and defended the castle against them. Repairs were needed to restore the damage then done, and it is probable that the present external appearance of the towers beneath the battlements represents Sir Robert Ellerker's work; at any rate in 1542 it was "in measurably good reparacions."¹ Great alterations were made by Sir Ralph Grey at the beginning of the seventeenth century when James I was king of a United Kingdom and peace had at last come to the Borders. The main entrance was then moved to its present place on the north side (plates I and II),² the whole of the south side was rebuilt and probably adorned with the nine pillars and statues of the Nine Worthies, seven of whom are still to be seen on the north side of the courtyard. The north side was also reconstituted and a "long gallery," in the fashion of the time, formed there. This has disappeared, but two of its overmantels, one originally at either end, still remain, one carved with the sacrifice of Isaac with St John the Evangelist and St Luke at each side (plate IV), the other representing the incident of Susannah and the elders flanked by St Matthew and St Mark (plate IV). Work was also carried out after the Civil War, when the famous toad-stone was found;³ it was also probably

¹ "The Castell of Chyllingham of thinheritaunce of yonge Rauffe Graye . . . ys in measurable good reparacions for Sir Robt. Ellerker knigthe havyng the custodye & gov'naunce of the said castell hath of late newly rep'elled the same" (Hodgson's *Northumberland*, vol. III, ii, p. 209).

² The thanks of the Club are given to the Society of Antiquaries of Newcastle upon Tyne for the loan of blocks used on plates No. V, VI, and VII, and to the Northumberland County History committee for those used on plates I, II, and III.

³ For a full account of this see *History of Northumberland*, vol. xiv, p. 335.

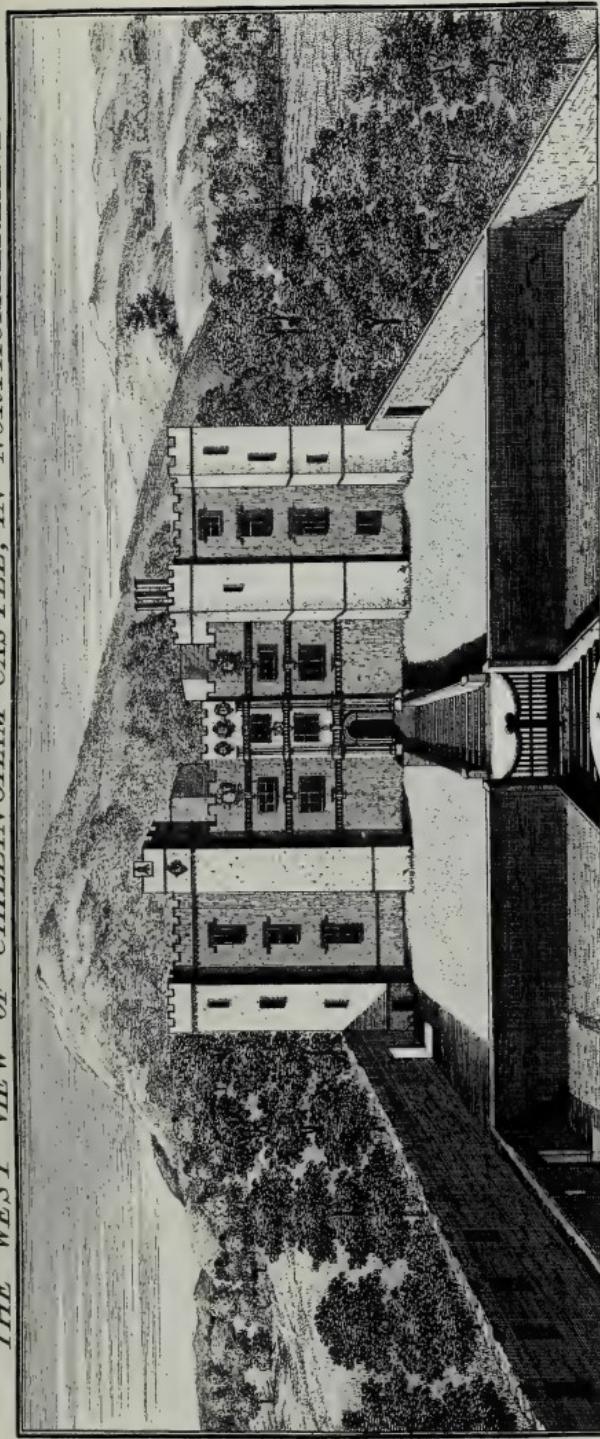


CHILLINGHAM CASTLE ENTRANCE IN 1832.

[To face p. 46.]



THE WEST VIEW OF CHILLINGHAM-CASTLE. IN NORTHUMBERLAND.



To the Right Hon^{ble} CHARLES Earl of Tankerville
Lord Ofslinton & Baron Ousilton in the County of Middlesex
Owner of this Castle This Prospect is humbly Inscriv'd by
Your Lordships most Obed^t Serv^r:
Sam^l & Nath^l Buck, Sculpsit.

THIS castle was for many ages the Seat of the Chief of the Noble Family
of Grey-Baron of Wark; it is a manor within the Barony of Neller; of old called
the Barony of Thatchamp, which Barony had also been held in the Possession
of the said Noble Family, which becoming extinct in the Person of Ralph
late Baron of Wark, the same descended to the present Proprietor, as
right of his Mother, who was the only Daughter of Lord Baron of
Somerby, and Earl of Tankerville.



[To face p. 46.





CARVED OVERMANTELS, CHILLINGHAM CASTLE.

[To face p. 46.]



about this time that the formal walled court on the north side, as shown in Buck's drawing of 1728 (plate III), was made, as well as the gallery, stairway, and arcade on the south side of the centre courtyard and the pillars and statues removed to their present position there. Considerable changes were made about the year 1753, by the second earl of Tankerville; it was then that the south front was refaced and a lawn made in front of it at first floor height with a vaulted tunnel running along the south front at ground level. In the early years of the nineteenth century the upper part of the east side of the courtyard was rebuilt to form state apartments, kitchens built against the same front, and other internal changes made. Later in the century avenues were made in the park, new lodges and a park wall built, and the formal forecourt of the eighteenth century replaced by grass lawns and gravelled drives. The final alterations were made in 1873 when the mullioned Jacobean windows of the north front (plate II) were replaced by the present sash-windows, many internal changes were carried out, and a new block, two storeys in height, added on the east side for servants' quarters.

ARMORIAL SHIELDS ON THE CASTLE.

Two beautiful panels of modelled plaster-work of seventeenth-century date are now in the steward's room, probably brought there from the Jacobean hall (plate V).

I. Quarterly of five—(1) (*gules*) *a lion rampant in a border engrailed (silver)*—Grey of Chillingham; (2) (*gold*) *three sheaves (gules)*—Presfen; (3) (*vert*) *a lion rampant in a border engrailed (silver)*—Heton; (4) (*azure*) *three chevrons interlaced and a chief (gold)*—Fitz Hugh; (5) *barry (silver and azure) on a bend gules a bezant*—Grey of Horton.¹ The shield is surmounted by a



¹ This is the shield blazoned for Grey of Horton at the Visitation of 1575; it seems wrongly for it is the shield of the lords Grey of Rotherfield with which the Northumbrian family had no connection. At the Visitation of 1552 the shield given for Sir Thomas Grey of Horton was *gules a lion rampant and a border engrailed silver a boar's head on the lion's shoulder*. This is the correct shield for the Horton family as used by Sir Thomas Grey on his seal of 1429.

full-faced mantled helm and ensigned by the crest of a ram's head upon a wreath. Around the achievement, in a border, is the Grey motto *DE BON VOULOIR SERVIR LE ROY* (plate V, fig. 1).

II. The shield of arms of Grey of Chillingham alone, surrounded by the motto as above and flanked by two symbolic figures representing Justice and Health (?) (plate V, fig. 2).

On the North Front.

In a square panel above the doorway over the central window of the first floor.



Quarterly 1 and 4 (gules) a *lion rampant* in a border engrailed (silver)—Grey of Chillingham; (2) *barry* (silver and azure) on a bend (gules) a *bezant*—Grey of Horton; (3) quarterly 1 and 4 (azure) three *chevrons interlaced* and a chief (gold)—Fitz Hugh, 2 and 3 *vair a fess* (gules)—Marmion. The shield is mantled and surmounted by a helm with the crest of a ram's head.

Beneath the battlements are five shields of arms each supported, from behind, by a sitting heraldic beast; from east to west they are:



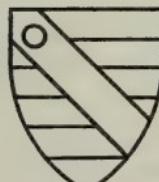
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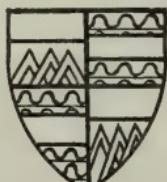
2



3



4



5

1. Grey of Chillingham.

2. Pressen.¹

3. Heton of Chillingham.

4. Grey of Horton.²

5. Fitz Hugh and Marmion³ quarterly.

¹ Sir Thomas Grey, author of *Scalachronica*, who died in 1369, married Margaret, daughter of William of Pressen (pedigree, *N.C.H.*, vol. xiv, p. 328).

² Sir Ralph Grey, died at Chillingham 17th Dec. 1564, married Isabel, daughter and heiress of Sir Thomas Grey of Horton (*ibid.*), but see note 1, p. 47.

³ Sir Ralph Grey, died c. 1443, married Elizabeth, daughter of Henry lord Fitzhugh.



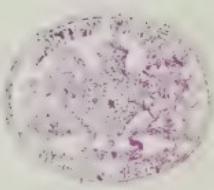
FIG. 1.



FIG. 2.

ARMORIAL PANELS IN CHILLINGHAM CASTLE.

[To face p. 48.]



Against the north side of the south wall of the courtyard are seven of the Nine Worthies, each holding a shield bearing the arms attributed to him. From east to west:—

1. *A double-headed eagle*—Julius Caesar.
2. *A cross potent between four crosses*—Godfrey of Bouillon.
3. *A crown in an orle of fleurs de lis*—Arthur.
4. *A double-headed eagle*—Charlemagne.
5. *A lion holding a battle-axe*—Alexander.
6. *A crown above an eagle*—Hector.
7. *A harp*—David.

Joshua and Judas Maccabeus are not represented.

IV. THE CHURCH.

The parish church of St Peter, Chillingham, is situated at the east end of the village upon a low sheltered hill beneath the higher ground of the park rising behind it. The church is first mentioned when Sir William Vescy (*d.* 1183), lord of the barony of Alnwick, of which Chillingham was a member, gave it in free alms to Alnwick Abbey. After the dissolution of the monastery its tithes were granted to Sir Robert Ellerker and thereafter became the property of the Greys. The Bishop of Durham has been the patron of the living from the Reformation until the formation of the diocese of Newcastle, since when the Bishop of Newcastle has presented.

It is possible that the present church may occupy the site of a pre-conquest building, but no masonry of such an early building now remains in position; the only evidence for its existence is a stone, apparently part of an Anglian Cross built into the north-west buttress of the nave and some blocks of rough masonry of an early type re-used in its walls. The south doorway, with its roll mouldings and billet ornament of twelfth-century work, is the earliest part of the present building, but traces of a coeval choir are probably to be seen in some of the stones of the crypt.

This early choir¹ was either rebuilt or extended eastwards

¹ *The History of Northumberland*, vol. xiv, pp. 307–321, gives a detailed account of this church, written by Mr H. L. Honeyman. The short description given here is based upon that, to which readers are referred.

later in the same century when the south chapel was also built and heightened and extended in the thirteenth century, when the west gable with its outstanding buttresses was also rebuilt. In the first half of the sixteenth century the floors of both the choir and the chapel were raised some feet in order that a barrel-vaulted crypt, to serve as a burial-place for the Greys, might be made. Sir Ralph Grey, who died at Chillingham on 17th December 1564, was buried there, and Dame Isabel his widow desired in her will of 6th October 1581 to be buried in the church near her first husband. Again in December 1589 Sir Thomas Grey was buried "within the tombe where other of my auncestors do lye." He it was who left £10 for the repair of the choir and thus began the renovation of the early seventeenth century. The walls of the nave were then rebuilt and heightened, new windows made, and an oaken pulpit, which still remains, provided. In a survey made about 1663 the church was reported to be in "good repar' on." Dr Thomas Sharpe at his archidiaconal visitation of 1723 ordered certain minor repairs to be done, and a similar order was made in 1763 by his son archdeacon John Sharpe. The belfry, which had become ruinous and too small for a new bell, was rebuilt in its present form in 1753. The church suffered another restoration in 1829 when new pews were put in, new roofs placed upon nave and chancel, a north pew or chapel built, and three new windows inserted in the east gable.

This restoration was carefully carried out, but it none the less resulted in the destruction of nearly all the mediæval and Jacobean work which might then have still been in existence. The western gallery was added in 1839. In 1869 the seventeenth-century font with its fine oak cover was brought here from Ancroft church; finally, in 1875, the south porch was rebuilt.

The most remarkable monument¹ in this otherwise rather plain and uninteresting church is the noble tomb of alabaster and freestone which stands against the west wall of the south chapel—now the family pew of the earls of Tankerville (plates VI and VII). It was removed to its present place early in the seventeenth century from its original position either in the middle of the chancel or perhaps beneath the

¹ For a full detailed account of it see *Mediæval Effigies in Northumberland* (*Arch. Ael.*⁴, vol. vii, pp. 15 and 23).



THE GREY TOMB IN CHILLINGHAM CHURCH FROM
SOUTH-EAST.

[To face p. 50.]



arch of this chapel. It was set up, probably during his lifetime, by Sir Ralph Grey, whose alabaster effigy, beside that of his wife, lies upon it. Sir Ralph Grey was the second son of Sir Thomas Grey of Wark and Heton who was beheaded as a traitor at the North gate, Southampton, in August 1415.¹ Sir Ralph was aged twenty-one in 1427, captain of the castle of Roxburgh in 1435, and took part in the final struggles of the Hundred Years War, in September 1441 he was captain of the important town of Mantes² on the Seine in Normandy. He died in March of the following year, probably whilst still in France. His wife was Elizabeth, daughter of Henry third lord Fitzhugh by his wife Lora, daughter and co-heiress of Sir Herbert St Quintin and also heiress of her uncle Sir John Marmion of West Tanfield.³

The effigies are carved in the finest style of the famous workers in alabaster of that date.⁴ Sir Ralph is represented in the full plate armour of the period enriched with fine goldsmith's work and covered by his armorial tabard, golden spurs are on his heels, and his feet rest upon a crouching lion. His bare head lies upon two cushions, whilst above it an angel carries his soul, in a napkin, to heaven; above this emblematic device is his mantled war helm with his crest of a ram's head upon it (plate VI).

His wife lies dressed in the full ceremonial costume of a lady of high degree of the time. Her head, resting upon two cushions, wears a horn-shaped head-dress covered with a jewelled net enriched with a gold chased border. Her neck and hands are adorned with a necklace and rings studded with precious stones, a mantle, fastened by a silken cord, with a brooch on each shoulder, covers her girdled kirtle and sideless cote-hardie, her feet rest upon two small dogs. At the back, above her head, the same motives as are above her husband's head are repeated (plate VII).

The effigies lie upon an alabaster slab, but the tomb itself

¹ See pedigree, *History of Northumberland*, vol. xiv, p. 328.

² *Inventaire des Sceaux de la Collection Clairambault*, vol. i, No. 4233.

³ *Comp. Peer.*, vol. vi, p. 424.

⁴ These effigies were in all probability carved by the "alabaster-men" who worked at the famous quarries at Chellaston, Derbyshire. Upon the subject of these and many like effigies see *The Early Working of Alabaster in England*, by W. H. St John Hope (*Arch. Journal*, vol. lxi, pp. 221 ff.).

is of freestone beautifully carved with niches of fine tabernacle work with pedestals and enriched with crockets and finials; in each niche is the standing figure of a saint holding his or her proper emblem, between these are smaller, plainer niches now empty and probably never occupied. The plinth and cornice are delicately carved with foliage, and above the tabernacle work of the niches, walls, towers, and battlements are sculptured.



A shield of the arms of Grey of Chillingham, borne by an angel at each side, is placed against the cornice in the centre of the north and south sides of the tomb (plate VI).



At the east end, also held up by an angel, is the shield of Grey of Chillingham, impaling Fitzhugh quartering Marmion (plate VII).

The west end of the tomb, also doubtless carved like the other sides, is now against the west wall of the chapel and cannot therefore be seen. The Grey badges of ladders and cloaks are carved upon the upper ledge of the cornice. In the seventeenth century an addition was made to the upper part of the west end; this consisted of a slab of black marble, framed in a freestone border, carved with the Grey motto **DE BON VOULOIR SERVIR LE ROY**. It is placed between two obelisks of red marble, and above it is the shield of arms and crest of Grey of Chillingham.

The saints within the niches, beginning on the *south side* at the *west end*, are:

1. Headless and unidentified.
2. St Thomas, holding spear and book.
3. St Audrey, crowned, holding a sceptre.





THE GREY TOMB IN CHILLINGHAM CHURCH FROM
NORTH-EAST.

[To face p. 52.]



4. St Cuthbert, holding St Oswald's head.
5. St Zitha, of Lucca, holding rosary and keys.
6. St Peter, holding keys.

East End.

7. St Wilfred, (?) as an archbishop blessing.
8. St Ninian, holding a padlocked chain.
9. St Catherine, holding wheel and sword.

North Side from the East.

10. St John Baptist, holding the *Agnus Dei*.
11. St Mary Magdalene, holding box of ointment.
12. St John Evangelist, holding chalice.
13. St Margaret, standing upon the dragon.
14. St James the Great, vested as a pilgrim.

A well-designed mural monument of freestone affixed to the north wall of the nave commemorates Robert Charnock who died in 1691. The medieval altar-stone of the church, with two of the usual five consecration crosses still to be seen upon it, is now a slab of the floor near the pulpit.

BIRD LIFE IN THE HIGHLANDS OF REDESDALE.

By R. CRAIGS.

ON coming to Catcleugh in 1910, I began to take an interest in the bird life of Redesdale, and made a note of any unusual occurrence. Eventually I kept a record of such. My observations, however, have been chiefly made in the portion of the valley that is termed "The Highlands of Redesdale," *i.e.* the upper part that stretches from Carter Fell to Birdhope—the former four miles N.W. from Catcleugh, and the latter five miles S.E.

In bird life, altitude, climate, landscape and food are important factors in regard to the numbers of the feathered inhabitants of a specified district, and the distribution of the species thereof. Save for the natural alders, birches, oaks and rowans in Deadwood, half a score of small plantations on the hillsides and the shelter-belts around the reservoir and grounds connected with the waterworks, there is a scarcity of shelter. Consequently vast tracts of the long-sloping hillsides, table-lands and edges are bleak and windswept, with an average annual rainfall of over 42 inches at an altitude of 800 feet above sea-level.

Nature is never stationary, neither are the laws governing industrial and domestic needs, and man, accordingly, is wont to make extensive alterations to the features of the landscape. Consequently, the aspect of the upper reaches of the Rede have been materially changed since the advent of the twentieth century. With the change of appearance the conditions and attractions for bird life are ever changing. When I came to Catcleugh, the ages of the young plantations ranged from two to five years, and the shrubberies were new and open. In many places there was a profusion of rank vegetation, which was an attraction for certain species, but more anon.

The birds of Upper Redesdale may be classed as residents and migrants. The residents number about forty species. By a decree of Nature, over ninety species of birds come annually from other countries to the British Isles. Several of these find their way to Upper Redesdale, stay for a few months and then depart. Some come from sunnier climes, others from colder regions. Some species travel thousands of miles. In ornithology, these birds are classed as Summer and Winter Visitors. There is also a considerable amount of insular migration, or local movement. Certain intermigratory species spend the autumn and winter months in the low-lying districts, either on or near the sea-shore, and return to the upland moors in the spring. What is the reason of this cycle of migration? Inherited or natural instinct directs the respective species to favourable haunts, where there is a reliable supply of food for the rearing of their offspring.

In early spring the weather is an all-important factor in facilitating or retarding the coming of the Summer Migrants to these wild bleak uplands. Consequently, the calendar of dates is apt to vary according to the more congenial or less favourable climatic conditions prevailing at the time of movement. Even though a few sporadic instances do occur, giving a somewhat wide range of dates, the annual reappearance in the spring of certain species in their respective breeding haunts, and their departure in the autumn, do not vary to a wide extent.

On 30th June 1938 an informal meeting of the Berwickshire Naturalists' Club was held at Cattcleugh, when the writer gave a talk on the Bird Life of the district. Some members suggested that it should be written with a view to publication in the Club's *Transactions*. In doing so I have embodied the substance of the said talk, and with the courtesy of the Council of the Northumberland, Durham and Newcastle-upon-Tyne Natural History Society, I have also drawn upon the Hancock Museum Prize Essay, 1930-31, "Feathered Visitors to the Highlands of Redesdale," for the present article.

For convenience of compilation I have decided to follow the order of E. E. Elms' *Pocket-Book of British Birds*.

Order PASSERES.

Family TURDIDÆ.

Subfamily TURDINÆ.

Missel Thrush (*Turdus viscivorus*).—The Missel Thrush is a species that stays with us all the year round. It is on the increase, and in certain wild ravines, where stunted birches and rowan trees grow, a few pairs usually nest, sometimes in company with the Ring Ouzel.

Song Thrush (*Turdus musicus*).—This species is intermigratory, and is the first breeding species to return after the New Year. Should the weather be mild and open odd birds are sometimes seen towards the end of January, but it is often into February ere they break into song. The exodus usually takes place in late September and early October, occasionally an odd bird lingers until November. The species has increased considerably since the young plantations have grown up.

The Redwing (*Turdus iliacus*) and the Fieldfare (*Turdus pilaris*) are both autumn migrants, and usually arrive near about the 8th October. The 11th November and 24th October of the present year are the latest dates I have for the arrival of the respective species, and they are considerably fewer in numbers than in previous years. By far the most notable instance of the arrival of the Redwing and the Fieldfare occurred in 1922. It took place between the evening of 7th October and the morning of 8th October. That morning a flock of birds belonging to the Thrush family, and roughly estimated at about three thousand, were feeding on the rowan berries along the avenue and in the nearby woods. A fair number of Song and Missel Thrushes were among them. A striking feature of the thrushes was their much darker plumage than that of our local birds. For three nights they roosted in Babswood and then left the district.

The Blackbird (*Turdus merula*).—A resident, and fairly plentiful.

The Ring Ouzel (*Turdus torquatus*).—A spring migrant, and frequents the ravines and crags on the hillsides. There are instances where the previous species and it overlap. For some unaccountable reason it has been decreasing in late years.

In June 1923 I put a Ring Ouzel off her nest in the ground in a bracken bed far out on the hillside.

The Wheatear (*Saxicola cenanthe*).—A spring migrant that has also been decreasing for some years. Throughout the summer of 1938 I only saw two birds of the species in the district.

Whinchat (*Pratincola ruberta*).—A spring migrant that usually appears early in May, is abundant in the upper reaches of the valley, 1938 being an exceptional year for numbers.

The Stonechat (*Pratincola rubicola*).—The Stonechat is very erratic in its appearance in Upper Redesdale, in fact right down the valley. 1923 was the year that I saw them most. Although I was not successful in finding a nest, I saw a pair feeding fledged young up Coomsden Burn and another pair doing likewise at Bellshiel. From April 1926 until October 1937 I did not see a bird of the species in Upper Redesdale, but since then odd birds have been seen at intervals.

The Redstart (*Ruticilla phoenicurus*).—Another spring migrant that sometimes appears in fair numbers. For a number of years a pair have nested regularly in a shed at Cattcleugh.

The Redbreast or Robin (*Erithacus rubecula*).—A resident, and everywhere abundant.

Subfamily SYLVIINÆ.

The Whitethroat (*Sylvia cinerea*).—Spring migrant, usually two or three pairs haunt the shrubberies.

The Lesser Whitethroat (*Sylvia curruca*) is a very irregular visitor. In 1923 I knew of two pairs. The nest of one pair was in a young spruce tree at a height of seven feet above the ground. I did not see another until 1928, when a pair was seen on a few occasions.

The Blackcap (*Sylvia atricapilla*).—I have not seen a Blackcap in the valley for years.

The Garden Warbler (*Sylvia hortensis*).—A regular spring migrant, and has maintained its status of three pairs for a number of years. However, in 1938 the number was augmented by at least one pair.

I may here revert to my notes on the shrubberies when in their young stage. When the shrubs were younger and the

paths and avenues more open they were evidently more to the liking of the aforesaid species than they are to-day, and consequently the birds do not come in such numbers as of yore. The same applies to the Sedge Warbler. We may consider that the desertion and decrease in numbers is attributable to the size of the shrubs and the lack of congenial ground vegetation.

The Golden-crested Wren (*Regulus cristatus*).—A resident, and everywhere abundant in the fir woods, far up on the hillsides and in the natural woodlands of Deadwood and Robswood. I have seen them flitting about in fair numbers in the old woods, where no firs suitable for nesting occur. Despite a keen search I have never found a nest among the lichen-clad twigs of the hardwoods, but the young were there.

The Chiffchaff (*Phylloscopus rufus*).—Whenever I have heard the call it has only been that of a migrant halting on its passage.

The Willow Warbler (*Phylloscopus trochilus*).—The most abundant of all the summer migrants, and maintains its status in a remarkable manner. From the time of the first arrivals in the middle of April until the middle of May marked increases in numbers take place at intervals. On occasions lingering birds are singing in September. On the 7th October of the present year I both heard and saw one in the grounds, and I again heard one on 16th November, possibly the same bird. On 24th February 1921 I heard and saw one in the Boathouse Wood.

As a rule the nest of one pair is placed at some distance from that of their neighbours', but in the summer of 1926 there was a small colony of Willow Warblers in a thicket of gorse at Catcleugh. One night I found seven nests in a detached bunch of whin, covering little more than one hundred square yards. The nests were at various stages of nidification, some building, some containing eggs, and others with young—some almost fledged. It was interesting to watch the birds going to their respective nests.

The Wood Warbler (*Phylloscopus sibilatrix*).—A spring migrant that has increased in the immediate surroundings of Catcleugh in the past ten years. Since the trees were trimmed and the dead under branches cut off, a wealth of ferns have sprung up in the woods, making them more to the liking of the species. There was a marked increase in 1938.

The Sedge Warbler (*Acrocephalus phragmitis*).—Although this species has deserted the grounds where it used to be a regular visitor, and certain haunts around the reservoir, it is common farther down the valley.

The Aquatic Warbler (*Acrocephalus aquaticus*).—The only specimen of the species that I have seen was in the garden at Byrness House, on the 26th August 1923. When first seen at a distance I thought that it was a Sedge Warbler, but on approaching closer I saw that the cheeks and eye-stripes were buffer than those of the Sedge Warbler, and that it had a central buff-streak on the crown.

The Grasshopper Warbler (*Locustella naevia*).—Another very erratic summer visitor. From 1917 until 1930 I neither saw nor heard a bird of the species in the upper reaches of the valley. It returned in 1930–31, but was again an absentee until 1938, when I met with it at Blakehopeburnhaugh and Whitelee.

Subfamily ACCENTORINÆ.

The Hedge Sparrow or Accentor (*Accentor modularis*).—Resident and well represented.

Family CINCLIDÆ.

The Dipper or Water Ouzel (*Cinclus aquaticus*).—Another well represented resident. Every hill-burn has its quota of breeding pairs.

Family PARIDÆ.

The Long-tailed Titmouse (*Acredula caudata*).—A single family party is occasionally seen foraging in the woods in the autumn in company with the Coal Tits and Golden-crested Wrens. One winter a family party occupied a House Martin's nest at Catcleugh Farm for roosting in.

The Great Titmouse or Ox-Eye (*Parus major*).—Resident, a few pairs inhabit the district.

The Coal Titmouse (*Parus ater*).—Resident, the most numerous of the family. In 1938 I kept seven nests under observation. Six in holes in walls, and one in the ground.

The Marsh Titmouse (*Parus palustris*).—I have on two occasions seen a straggler at Catcleugh.

The Blue Titmouse (*Parus caeruleus*).—A resident on similar status as the Great Titmouse.

The Crested Titmouse (*Parus cristatus*).—When at work in the avenue on 3rd September 1937 I heard an unfamiliar call-note among the trees, and presently a Crested Tit came and perched on a low branch of a spruce fir about twenty feet distant. I had not seen one in life before, but the crest was unmistakable.

Family TROGLODYTIIDÆ.

The Wren (*Troglodytes parvulus*).—A resident, and everywhere abundant. It is to be found far up the wild ravines and among the rocks on the hillsides, even in the depth of winter, when snowdrifts cover the cliffs.

Family CERTHIADÆ.

The Tree Creeper (*Certhia familiaris*).—A resident in Upper Redesdale, at one time appeared in the woods at intervals and then disappeared, but of late it has shown a disposition to become more settled in its habits at Catcleugh. The first evidence I ever saw of nesting at Catcleugh was in 1928, when a pair nested in a split alder in the Allars and reared two broods in the same nest, which was used in subsequent years.

Family MOTACILLIDÆ.

The Pied Wagtail (*Motacilla lugubris*).—Intermigratory and abundant. Usually returns to its breeding haunts in the first week in March.

The White Wagtail (*Motacilla alba*).—On the 1st May 1931 I saw a pair at a large heap of rubble on the reservoir side. They haunted the spot for over a week, and disappeared. I had hopes that they would nest, and kept them under close observation at nights.

The Grey Wagtail (*Motacilla melanope*).—Another intermigratory species that comes to Catcleugh with due regularity. For over a dozen years a pair have nested in the *Cotoneaster microphylla* hanging on the wall around the Compensation Basin. Breeding pairs are fairly plentiful on all the hill burns.

The Yellow Wagtail (*Motacilla raii*).—A summer visitor that

has visited Catcleugh on a few occasions. On 28th April 1930 a pair were seen at the foot of the Bywash. They frequented the spot for a few days. Later a pair were seen at Spithope-haugh, in the potato field. Owing to an accident I was unable to follow them up, and therefore could not keep them under close observation to see if they nested.

The Tree Pipit (*Anthus trivialis*).—A spring migrant, plentiful in the ravines and by the burnside where alders and beeches grow.

The Meadow Pipit or Titlark (*Anthus pratensis*).—In Upper Redesdale is an intermigratory species, and is everywhere abundant in summer. Occasionally an odd bird stays all winter.

Family AMPELIDÆ.

The Waxwing (*Ampelis garrulus*).—On 11th March 1937 six Waxwings were seen in the gardens at Reservoir Cottages by the women folks. The birds were identified from Coward's *British Birds*. I was also told that Waxwings were seen in Otterburn about the same date.

Family MUSCICAPIDÆ.

The Spotted Flycatcher (*Muscicapa grisola*).—A spring migrant that sometimes turns up in good numbers. On 7th June 1937 I found a Spotted Flycatcher's nest with four young in the ivy on a wall at Reservoir House. The young would be about three or four days old. This is, I should think, a fairly early record for the species to have young, seeing it is a late migrant. When the informal meeting of the Berwickshire Naturalists' Club was held at Catcleugh on the 30th June 1938, the party was shown the said nest that had been again used; the brood had flown the previous day and the parents were feeding them in the shrubbery.

The Pied Flycatcher (*Muscicapa atricapilla*).—On 5th July 1936 I saw a male in Deadwood, being the only occasion that I have seen the species in Redesdale. Perhaps it may not be out of place to say that, in the summer of 1937, I heard of a pair of strange birds, answering the description of the Pied Flycatcher, been frequently seen in the natural woods around Evistones, about seven miles S.E. from Catcleugh.

Family HIRUNDINIDÆ.

The Swallow (*Hirundo rustica*), the House Martin (*Chelidon urbica*), and the Sand Martin (*Cotile riparia*).—All three species are regular visitors to Upper Redesdale. No doubt, owing to the lack of suitable nesting sites, the last-named is not so well represented about Catcleugh as the Swallow and House Martin.

Family FRINGILLIDÆ.

Subfamily COCCOTHRAUSTINÆ.

The Greenfinch (*Ligurinus chloris*).—Although I had on occasions noted Greenfinches at Catcleugh, it was not until 1923 that the species became resident, and from that time two or perhaps three pairs have nested regularly around about.

The Hawfinch (*Coccothraustes vulgaris*).—Although it is fairly certain that the Hawfinch breeds regularly in the woods at Horsley, it is only a very erratic visitor to Catcleugh. However, I have good reason to believe that two pairs nested in the grounds at Catcleugh in 1928. On the 11th July I saw the fledglings, and on searching the shrubbery in the evening I found an empty nest in a hawthorn bush. On the 15th August 1938 I saw an immature bird in the grounds, which was seen again on subsequent occasions.

Subfamily FRINGILLINÆ.

The Goldfinch (*Carduelis elegans*).—Odd birds of this charming species are to be met with at various places in the valley. I have seen broods at Catcleugh, Byrness, Rochester, Otterburn and Woodburn. On 20th November 1935 I saw a charm of sixteen feeding on thistles near Leam Cottage, West Woodburn.

The Siskin or Aberdevine (*Chrysomitrus spinus*).—A winter visitor, but very erratic in its appearance. They were well represented in the early months of 1934, several stayed until the end of April.

The House Sparrow (*Passer domesticus*).—Although there is a small colony at Byrness House, only odd birds are to be seen at Catcleugh, only a mile and a half farther up the valley. Occasionally a pair nest in the ivy-clad walls.

The Tree Sparrow (*Passer montanus*).—I have only seen a Tree Sparrow in the valley on two remote occasions.

The Chaffinch (*Fringilla cælebs*).—The separation of the sexes in winter is a habit peculiar to the species. The cocks remain during the winter, but the hens leave the district and return in the spring.

The Brambling (*Fringilla montifringilla*).—A rare straggler in winter. Single birds have been seen on remote occasions.

The Linnet (*Acanthis cannabina*).—Small flocks usually visit this part at the end of the breeding season. Odd pairs nest in the whins near Cottonshopeburnfoot and down Pringle Haugh.

The Lesser Redpoll (*Acanthis rufescens*).—Fairly common in the woods, and nests regularly in the grounds.

The Twite or Mountain Linnet (*Acanthis flavirostris*).—Comes regularly in the autumn, and a few birds haunt the woods in winter.

One night in September several years ago I walked through a flock of Twites, several hundreds strong, that were foraging among the bracken beds on Cattcleugh Shank.

The Bullfinch (*Pyrrhula europaea*).—Not numerous, but nevertheless fairly represented, and breeds regularly in the woods. In spring sometimes pays unwelcome attention to fruit trees.

The Common Crossbill (*Loxia curvirostra*).—Perhaps the Crossbill may be regarded as the most notable feathered visitor of recent years. I have no recollection of seeing any in Upper Redesdale before the afternoon of 7th July 1929, when I saw a small party in Babswood. On 2nd July 1930 I saw two adult birds in a fir clump on the reservoir side, and after that date there was quite an invasion of Crossbills in Upper Redesdale. The following were the most notable numbers seen: On the morning of 21st July I saw fourteen in a clump at Whitelee, and on the evening of the same day I saw the same number at Cattcleugh. On the 29th July I saw a flock of 29 crossing over from one wood to another in the grounds. When at work at Ramshape, on the morning of 6th August, I counted 21 leave a wood and fly away in a westerly direction. They were shortly followed by 16 more. Even after they had gone a fair number remained and foraged about the wood all the forenoon. On the morning of 13th September, when I was again at work

at Ramshope, 16 came and fed on rowan berries on a tree on the opposite side of the road. Some very rich plumaged birds were among them. Their stay in Upper Redesdale that year was much longer than in 1929. In subsequent years, until 1937, when no Crossbills were seen, a fair number regularly appeared early in July. On 28th March 1936 I saw two pairs in the fir wood at Blakehopeburnhaugh. On 8th April I heard a male Crossbill singing in the grounds at Reservoir House. It was a beautiful adult, and was the first time I had heard the song of the Crossbill. The song was heard on subsequent days. On 7th June I again chanced to be in the fir wood at Blakehopeburnhaugh, and there saw two pairs of Crossbills carrying food to young. The two fir trees to which both pairs were returning were about forty yards apart. The foliage was very dense, and although I could not see the young I could quite distinctly hear them being fed by their parents. Strange to say they left Upper Redesdale that year at a time when, in previous years, the influx had taken place. 1937 was a blank, but a few birds have been seen this year (1938).

Subfamily EMBERIZINÆ.

The Corn or Common Bunting (*Emberiza miliaria*).—A rare winter visitor.

The Yellow Bunting or Yellow Hammer (*Emberiza citrinella*).—A rare straggler. I have only seen five in Upper Redesdale in twenty-eight years.

The Reed Bunting (*Emberiza schæniclus*).—A partial resident, inasmuch as a few cock birds stay all the winter in their breeding haunts. In the breeding season they are fairly plentiful.

The Snow Bunting (*Plectrophenax nivalis*).—A regular winter visitor and bird of passage. Sometimes appears in large numbers.

Family STURNIDÆ.

The Starling (*Sturnus vulgaris*).—There are several small colonies and straggling pairs in Upper Redesdale. Occasionally we have a visitation of migrants. The most notable being in August 1920. The horde numbered several thousands. That year there was a plague of the Pine Sawfly caterpillars, and

the starlings cleared them out. One albino specimen was bred at Catcleugh in the same nesting site in each of the years 1924-25.

Family CORVIDÆ.

The Magpie (*Pica rustica*).—Before the forming of a Game Preservation Society in Redesdale, the Magpie was fairly common below Otterburn, and it seems strange to say that I have only seen a Magpie on two occasions at Catcleugh.

The Jackdaw (*Corvus monedula*).—Also very scarce. A pair used to breed regular in a hole in a poplar tree at Byrness Church, but they were either killed off or banished by the vermin-trappers.

The Raven (*Corvus corax*).—The species is restricted to a pair in Upper Redesdale. They nest on cliffs that has given sanctuary to the species from time immemorial. I know of three nesting sites where broods have been successfully reared, but it is regrettable that the nests are often raided.

The Carrion Crow (*Corvus corone*).—Despite the efforts of the keepers and the vermin-trappers, this species is persistently holding its status. The numbers are augmented by visitors in the spring.

The Hooded Crow or Grey-backed Crow (*Corvus cornix*).—Some years ago the Hooded Crow was a regular autumn visitor, but in recent years it has only been seen at remote intervals.

The Rook (*Corvus frugilegus*).—Since the rookeries at Catcleugh and Byrness were destroyed the Rook is only a visitor. What birds we do see are probably from Woodhill, near Otterburn, or Letham in Roxburghshire.

Family ALAUDIDÆ.

The Skylark (*Alauda arvensis*).—Common throughout the breeding season, but leaves the upper reaches of the valley in winter.

Order PICARIÆ.

Family CYPSELIDÆ.

The Swift (*Cypselus apus*).—They are only passing migrants that are seen at Catcleugh, either in May or August.

Family CAPRIMULGIDÆ.

The Nightjar (*Caprimulgus europaeus*).—A rare summer visitor that has been seen on a few occasions.

Subfamily PICINÆ.

The Green Woodpecker (*Gecinus viridis*).—A bird, answering to the descriptions of a Green Woodpecker, was seen in a wood at Byrness by some shepherds when cutting firewood on 12th January 1933.

The Great Spotted Woodpecker (*Dendrocopos major*).—A pair have nested in Deadwood for many years, but it is only in recent years that stragglers have foraged in the woods at Catcleugh.

Family ALCEDINIDÆ.

The Kingfisher (*Alcedo isspida*).—A late summer and autumn visitor to the Highlands of Redesdale. The Rede below Catcleugh is a favourite haunt.

Family CUCULIDÆ.

The Cuckoo (*Cuculus canorus*).—It is safe to say that the Cuckoo is the summer visitor that attracts the most attention, and visits Upper Redesdale in goodly numbers. Some seasons show a slight falling off in numbers, *i.e.* 1936–37; however, in 1938 there was a marked increase. I may here say that in the middle of September 1914 I saw a pair of Missel Thrushes feeding a young cuckoo at the Compensation Basin.

Order STRIGES.

Family STRIGIDÆ.

The White or Barn Owl (*Strix flammea*).—For a number of years a pair of Barn Owls have frequented Catcleugh and Byrness. In 1937 their nest with six young was found in a pigeon-cot at Catcleugh Farm. On 30th June 1938, when the informal meeting of the Berwickshire Naturalists' Club was held at Catcleugh, a pair were rearing a brood of four in the said cot. On 12th October I discovered that a second brood

was in the pigeon-cot, but the entrance to the cot was blocked up with hay.

The Long-eared Owl (*Asio otus*).—Odd pairs of this species nest in the old plantations on the hillsides.

The Short-eared Owl (*Asio accipitrinus*).—This species has never been much in evidence, but to-day, 24th November 1938, the gamekeeper on the forestry ground told me that he had seen a party of six Short-eared Owls—presumably two adults and four young—hunting in daytime among the young trees.

The Tawny or Brown Owl (*Syrnium aluco*).—Pretty common in the district. A fearless bird when anyone approaches too near the young after they have left the nest. When moth-hunting at night-time—once with a light—I have had two very unpleasant experiences.

Order ACCIPITRES.

Family FALCONIDÆ.

Subfamily BUTEO.

The Common Buzzard (*Buteo vulgaris*).—Although there is a lynn, the Buzzard Lynn, on the eastern slope of Carter Fell, the Buzzard is now a very rare visitor to the haunts, evidently at one time favoured by its progenitors. On the 1st October 1921 I came suddenly upon a female Common Buzzard sitting behind a bank on Ramshape Burn side. On the 5th of that month I saw a pair hovering and soaring in wide circles over Lumsden Law. I never saw the male again, but the female was afterwards seen on several occasions.

The Sparrow-Hawk (*Accipiter nisis*).—Well distributed in the valley, but its numbers are being yearly depleted by the vermin-trappers.

The Peregrine Falcon (*Falco peregrinus*).—A fairly consistent visitor, and would re-establish itself as a breeding species if allowed to settle. In May 1923 a pair succeeded in nesting on a wild cliff, and a clutch was laid, but the gunman prevented any further success.

The Merlin (*Falco aësalon*).—For some years the species was well represented in the district, but in recent years the numbers have been considerably reduced for the furtherance of game

preservation, and it is in danger of being banished from the valley.

The Kestrel (*Falco tinnunculus*).—Once pretty common, but also sharing the fate of its congeners.

Order STEGANOPODES.

Family PHALACROCORACIDÆ.

The Common Cormorant (*Phalacrocorax carbo*) and the Shag (*Phalacrocorax graculus*).—Both species are occasional visitors to the reservoir, with no regard for season.

Subfamily SULIDÆ.

The Gannet or Solan Goose (*Sula bassana*).—Shortly after I came to Catcleugh a shepherd caught an exhausted bird on the hill. I did not see it, but from the descriptions I got of its colour, size, and bill, I concluded that it was a Gannet.

Order HERODIONES.

Family ARDEIDÆ.

The Common Heron (*Ardea cinerea*).—Fairly common in the valley; at one time there was a small herony of eight pairs in Babswood, but owing to persistent molestation they deserted the wood, and, on the breaking up of the herony, individual pairs took up their abode in the several woods in the district.

Order ANSERES.

Family ANATIDÆ.

Grey-Lag Goose (*Anser cinereus*).—Although skeins of Grey-Lag pass frequently overhead from autumn until spring, very few ever settle to stay at Catcleugh. It is on very odd occasions that a few settle on the reservoir.

The Pink-footed Goose (*Anser brachyrhynchus*).—The same can be said of this species, but one evening in the last week of April 1928 a large flock of Pink-footed Geese, several hundreds strong, came to rest on the reservoir. It was a fine sight to

see them break up into small skeins and circle around before alighting.

The Bernacle Goose (*Bernicla leucopsis*).—The first record I have of this species is 4th October 1931. I was told that a strange duck had taken up its abode with the domestic ducks at Blackblakehope. It went into the duck-house with them. I went to see it, and took Coward's book on British Birds with me, and had no difficulty in identifying it. On the 29th April 1935 I saw three sitting on the stonework of the reservoir embankment.

The Whooper Swan (*Cygnus musicus*).—A regular winter visitor. Unless the reservoir gets frozen over, a pair or so sometimes stay throughout the winter, leaving at the end of April or the beginning of May.

Bewick's Swan (*Cygnus Bewicki*).—I have on rare occasions seen one, or a pair of this species, on the reservoir.

The Mute Swan (*Cygnus olor*) is a frequent visitor to the reservoir throughout the year, sometimes resting for a few hours, sometimes days. In winter it is a quite common occurrence for a pair of adults, accompanied by their cygnets, to stay for a few weeks.

Before leaving the family it may not be out of place to say that I once saw three Canada Geese, and that a Black Swan settled on the reservoir several years ago and stayed for some days, but was unapproachable.

The Common Sheld-Duck (*Tadorna cornuta*).—If memory serves me aright, it was in the autumn of 1910 or 1911 that a male settled on the reservoir, and was in residence there until August 1913, when he was shot by the sporting tenant of Catcleugh.

The Mallard or Wild Duck (*Anas boscas*).—Very common in the district. Some years ago, when duck-rearing was being done, albino specimens occurred, even in the self-reared clutches on the reservoir. There was one melanic female that flew about for upwards of three years before she was shot.

The Shoveller (*Spatula clypeata*).—A few years ago a male of this species was frequently seen in the summer on the banks of the Rede below Catcleugh.

The Teal (*Querquedula crecca*).—Not common, but a few pairs nest annually in the district. Although the nests have been

occasionally found, the broods are more frequently encountered when fishing. The young birds appear to migrate from the district in the autumn.

The Wigeon (*Mareca penelope*) and the Pochard (*Fuligula ferina*).—Although both these species visit the reservoir in the autumn and winter, there has been a steady decrease in numbers for some years past. When I came to Catcleugh, it is safe to say that scores were then seen in the bays and inlets, where units only now haunt.

The Tufted Duck (*Fuligula cristata*).—At that time the Tufted Duck was resident and bred. If memory serves me aright, it was in the summer of 1920 that four pairs nested and reared broods. Alas! it has now ceased to breed here.

The Scaup Duck (*Fuligula marila*).—One morning in the winter of 1921 I picked up a female that was lying dead on the stonework of the embankment. It had been wounded the previous night by the gamekeeper.

The Golden-Eye (*Clangula glaucion*).—Usually upwards of a dozen are to be seen on the reservoir in winter, but nothing like the numbers of yore.

People interested in ornithology are apt to ask, "Why?" Storms and the ever-varying level of the surface of the reservoir have been detrimental to the vegetation under high-water level. The turf and soil have been scoured off and a sterile clay and subsoil exposed, whereby the essential vegetation—the host plants of larvæ, mollusca and crustacea, the food matter of aquatic birds—has been destroyed. This, I think, may account for the decrease.

The Goosander (*Mergus merganser*).—A regular winter visitor, sometimes in units, but occasionally in greater numbers. The most notable visitation of the species took place on 7th February 1935. About 3 p.m. forty-four arrived and joined six others that had been resident on the reservoir for some time.

The Red-breasted Merganser (*Mergus serrator*).—A winter visitor, but never in anything like the numbers of its congener.

Order COLUMBÆ.

Family COLUMBIDÆ.

The Ring Dove or Wood Pigeon (*Columba palumbus*).—Pretty common, and resident birds have increased considerably since the woods have grown up.

The Stock Dove (*Columba oenas*).—Not common in Upper Redesdale. In the summer of 1931 a pair nested in Jock's Craig. The following summer I climbed up to a nest in Yettis Craig. The two young birds were in the downy state.

Order GALLINÆ.

Family TETRAONIDÆ.

The Black Grouse (*Tetrao tetrix*).—A species that has decreased considerably since I came to Catcleugh. However, it is gratifying to hear reports of the species showing signs of recovery.

The Red Grouse (*Lagopus scoticus*).—For some years past the Red Grouse has been in a worse state than its congener. On some of the onetime prolific moors very few breeding pairs are to be seen in the breeding season.

Family PHASIANIDÆ.

The Pheasant (*Phasianus colchicus*).—Not plentiful, but has increased in recent years.

Common or Grey Partridge (*Perdix cinera*).—A few breeding pairs maintain their status, but the young birds appear to migrate.

Order FULICARIÆ.

Family RALLIDÆ.

The Landrail or Corncrake (*Crex pratensis*).—When I wrote the essay for the Hancock Prize Competition, I said it was a pleasure to record that the Corncrake had come back to Highlands of Redesdale in considerable numbers. In 1929–30, after a sequence of practically barren years, the species turned up in good numbers and haunted the meadows. In 1929 I

estimated that six pairs were breeding between Whitelee and Byrness. The following year they came back in even greater numbers. They were also plentiful all along the pipeline. The following notes will give some idea of the numbers: On the 10th July two nests, with eggs, were destroyed by the mowing machine in a hayfield at Byrness. On the same day a brood of six was also seen, while an earlier brood was seen in the same field a few days previous. At least two pairs were in the meadows at Spithopehaugh, about a quarter of a mile west from the Byrness meadow. At Spithopehaugh the haymakers found a Corncrake's nest on the 3rd September. Only one undamaged egg remained in the nest, and judging by its contents when blown, the bird had been sitting about a week. After that year there has been a gradual decrease in numbers, and during the present year, 1938, I have only heard of one Corncrake being heard in the district.

The Water Rail (*Rallus aquaticus*).—I have only once seen the Water Rail at Catcleugh, but going beyond my stipulated boundary, it may be of interest to mention that on the 12th December 1921 I surprised a stoat carrying a Water Rail, slung across its shoulders, at a spot where the pipeline crosses the Miller Burn, about fourteen miles below Catcleugh. The stoat dropped its little victim and sought cover in the dry wall.

The Moorhen or Water Hen (*Gallinula chloropus*).—Pretty well distributed throughout the district.

The Coot (*Fulica arra*).—A rare straggler. I have only seen the Coot on the reservoir on five occasions—one lying dead, evidently killed on the telegraph wires. In the spring of 1926 a pair took up their abode for a few weeks, and judging by their movements they had a desire to stay to nest, but for some reason unknown to me they suddenly disappeared.

Order LIMICOLÆ.

Family CHARADRIDÆ.

The Golden Plover (*Charadrius pluvialis*).—Common as a breeding species on all the upland flowes.

The Lapwing or Peewit (*Vanellus vulgaris*).—Another intermigratory breeding species that has maintained its status in the valley.

The Oyster Catcher (*Hæmatopus ostralegus*).—A visitor at frequent intervals. In 1921 I have good reason to believe that a pair nested and reared a brood in a turnip field at Catcleugh. However, the question of the Oyster Catcher being classed as a breeding species in Redesdale was put beyond doubt in 1937. On 20th May Mr T. Glendinning, Ashtrees, found a nest with three eggs on a gravel bed on the left bank of the river Rede, in Horsley Haugh. An egg was brought to me for identification. The adult birds returned to the site in 1938.

The Woodcock (*Scolopax rusticula*).—Pretty common, both as a resident and migratory species, and nests regular on the moors and in the woods. I have found nests in the middle of July.

The Common Snipe (*Gallinago cælestis*).—Also common.

The Great Snipe (*Gallinago major*).—In the spring of 1922 a pair of Great Snipes frequented the marshes in Ramshope for a few weeks.

The Dunlin (*Tringa alpina*).—It was not until 9th June 1928 that I first saw a Dunlin in the district—I had heard of them below Otterburn. I saw a Dunlin, presumably the same bird, on subsequent occasions, on the banks of the Rede near Spithopehaugh. I kept a lookout in 1929, but never saw one. However, when fishing in the Rede on 10th June 1930 I again saw a Dunlin at the same spot. I have been since informed by Mr T. Robson, Bridgeford, that the Dunlin nests on Thirlmoor.

The Common Sandpiper or Summer Snipe (*Totanus hypoleucus*).—A summer migrant, and very common in Redesdale.

The Green Sandpiper (*Totanus ochropus*).—A rare autumn visitor.

The Common Redshank (*Totanus calidris*).—Intermigratory, and being well represented in the breeding season, nests regular on the moors.

The Greenshank (*Totanus canescens*).—Occasional visitor. I once saw a pair in the spring, but they did not stay to nest.

The Common Curlew (*Numenius arquata*).—Another intermigratory species that maintains its status in its breeding haunts.

Order GAVIÆ.

Family LARIDÆ.

Subfamily STERNINÆ.

The Common Tern (*Sterna flaviatilis*).—Although I have on different occasions seen birds belonging to the subfamily, it was not until 2nd September 1936 that I was able to identify a bird of this species. It stayed on the reservoir for about a month, and was quite approachable.

The Arctic Tern (*Sternus macrura*).—A bird of this species was killed on the telegraph wires in front of Catcleugh Farm, 23rd August 1934. I sent it to the Hancock Museum, where it was identified.

The Black-headed Gull (*Larus ridibundus*).—For a number of years goodly numbers of this species came regular in the spring and frequented the shores of the reservoir and the river, but the adult birds usually left again early in May, the immature birds lingering longer. In the spring of 1938 they came in stronger forces, and several birds, both in adult and immature plumage, stayed until the autumn before they left. I never could see any sign of nesting among the adults. The species, I understand, was successfully banished in the spring from off the Hallington reservoir. This, no doubt, would account for the unusual numbers seen at Catcleugh.

The Common Gull (*Larus canus*).—Has been seen on the reservoir at remote intervals.

The Herring Gull (*Larus argentatus*).—A regular visitor in autumn and winter, but only in units.

The Lesser Black-backed Gull (*Larus fuscus*).—Intermigratory, and occasionally resident throughout the year, 1938 being an instance. During summer, three birds in adult plumage were regularly seen.

The Greater Black-backed Gull (*Larus maximus*).—The best represented of the gulls. When the birds return from their breeding-ground the colony numbers about an hundred. Like its congener, individuals sometimes were wont to stay in Redesdale throughout the year, but since the forming of the Game Preservation Society they have not been allowed. In 1923 we have good reason to believe that a pair nested in the

moss between the Hawk Ghyll, on Catcleugh, and the head of the Hawk Willies, on Upper Hindhope. The site is just on the Border Line. The Spithopehead shepherds saw the adult birds there when they were busy with their peat cutting in the middle of May, but never thought of looking for a nest. It was the last Saturday in June that I saw the two adult birds and the three young ones. The young were not strong on the wing. When repeatedly flushed, they flew very low, and only about seventy or eighty yards at a flight. A pair returned to the site in 1924, but were not allowed to settle there.

Order PYGOPODES.

Family COLYMBIDÆ.

The Black-throated Diver (*Colymbus arcticus*).—On the 23rd February 1929 a specimen of the Black-throated Diver was picked up in an exhausted condition near Rochester, and was put into an outhouse with kindly intentions and given food, but it died shortly afterwards.

Family PODICIPEDIDÆ.

The Great Crested Grebe (*Podiceps cristatus*).—A regular winter visitor, usually two or three birds. About twenty years ago a pair nested in Chattelehope Bay—a favourite fishing drift. Three eggs were laid, but the birds deserted their nest and left the reservoir.

The Slavonian Grebe (*Podiceps auritus*).—Just over a dozen years ago individuals of this species were occasionally seen in the winter. But in recent years I have not seen one.

The Eared or Black-necked Grebe (*Podiceps nigricollis*) and the Little Grebe or Dabchick (*Podiceps fluviatilis*) are rare stragglers. The former I have once seen—a bird that was found lying in a roadside ditch, at Low Byrness, in an exhausted condition. The latter I have occasionally seen on the reservoir.

Now that a considerable area of the Highlands of Redesdale are involved in a big forestry scheme, the conditions for certain types of bird life will be materially altered. Can we visualise what they will be twenty years hence?

GRACE DARLING.

By COLONEL GERARD F. T. LEATHER.

THE FAMILY OF DARLING.

GEORGE DARLING (great-grandfather of Grace), born 15th June 1707, had a family of seven, six girls and one boy, Robert (grandfather), who was born 11th March 1746. Robert also had a family of seven, of whom William (father), the youngest, was born 7th February 1786. William was married at the early age of nineteen, on the 1st July 1805, to Miss Horsley, who was twelve years his senior. In spite of the difference in their ages, the marriage was a happy one, and the young husband always remained master in his own house and was loved and respected by his family. Nine children were born of this marriage, of whom Grace, the seventh, was born 24th November 1815 at Bamburgh; so she was the seventh child of the seventh child of the seventh child. Twin boys followed Grace, of which one, Brooks Darling, often appears in our story.

Grace's grandfather, Robert, was in charge of the lighthouse on the Brownsman, assisted by Grace's father. After the old man's death on 29th September 1815, two months before Grace was born, William was promoted Lighthouse Keeper, and remained on the Brownsman for ten years till the Longstone Lighthouse was built, when he took over that lighthouse on 15th February 1826, and the Brownsman light was discontinued.

Grace's father is described as sturdy, intelligent, and of extremely quiet and modest manner. When this Club visited the Farnes on 21st June 1854 they had the gratification of seeing him (Grace Darling's father) and several members of the family.

GRACE DARLING.

The description of Grace Darling at the time of her gallant act, when she was twenty-two years old, is that she was only

5 feet 3 inches tall, with golden brown hair and dark eyebrows. There was nothing masculine about her.

S.S. "FORFARSHIRE."

The "Forfarshire" was a very fine up-to-date paddle steamer of 400 tons, launched in 1834. She had accommodation for 40 passengers, and plied regularly between Hull and Dundee. On the 7th September 1838 she left Hull carrying 22 cabin and 19 steerage passengers, which, with the crew, made a total of 59. One of the boilers started to leak soon after leaving Hull, but Captain Humble, who was in command, did not consider the trouble serious, and the leak was repaired. Off St Abb's Head a sudden storm from the north arose, and the boiler trouble became worse. The captain tried to put into the Tweed, but the sea was too rough. Eventually the leak became so bad that it put out the fires, so sail was hoisted, and the captain tried to manoeuvre the ship under the shelter of the Farnes, hoping to anchor there, but between 3 and 4 a.m. on the 7th September the vessel struck the western extremity of the Big Harker rock. Just before this disaster the captain tried to get the passengers on deck, whilst the mate and eight of the crew launched a boat. Only one passenger succeeded in getting away in this boat, which was afterwards picked up at sea. In less than a quarter of an hour after striking the rock the vessel broke in two and all the remaining cabin passengers were drowned, and with them Captain Humble and his wife. Eight or nine of the steerage passengers and five of the crew clung to the forepart of the wreck during the hours of darkness, but with daylight and a falling tide they managed to get on to the rock. Their cries for help were unheard at the lighthouse, though only 300 yards away, on account of the north wind.

DISCOVERY OF THE WRECK.

Only William Darling, his wife, and Grace were on the Longstone, as Brooks Darling, who usually assisted his father, had gone to North Sunderland that day to sell some herrings, and had been unable to return on account of the sudden storm.

Grace was, therefore, helping her father with the light, and was the first to notice a huge wreck on the Big Harker rock. She roused her father, who at once said that nothing could be done on account of the violence of the storm and the absence of his son. Grace at once offered, nay insisted on taking her brother's place, and after some further argument and great objections from Mrs Darling, the three of them launched the coble belonging to the lighthouse. This boat was 21½ feet from stem to stern, 5 feet 4 inches beam amidships tapering to 2 feet astern. She had five seats, one of them astern, and four oars.

THE RESCUE.

Although the wreck was only 300 yards from the lighthouse, a detour of at least a mile had to be made by the rowers in order to avail themselves of wind and tide and such shelter as could be got from the Blue Caps rocks. Their main danger lay in the fact that whereas wind and tide helped the outward journey, a return to the lighthouse would be impossible without other help. Unless at least two of the survivors had the necessary strength and ability to row the boat, there would be no return.

Reaching the Big Harker, nine people were found to be alive, one of them a woman, whilst a clergyman and two children were dead. The frenzied survivors were likely to rush the little boat, which was only capable of carrying about six people, so Darling had to jump on to the rock and arrange who should be the first to be rescued. This was the most trying part of the ordeal, as Darling confessed in after years. Grace had to be left alone in the boat, rowing hard to keep it from being dashed to pieces on the rocks, and approaching as directed by her father to take off a hysterical woman, a badly wounded man, and three sailors. When this was achieved, the sailors and Darling rowed the boat back, whilst Grace did her best with the injured passengers. At the lighthouse she and her mother took charge of the injured, whilst two of the sailors with Darling rowed off to bring the remaining survivors from their perilous position. The falling tide made the second journey less risky, as the rocks gave more shelter.

THE NORTH SUNDERLAND LIFEBOAT.

William Darling, before leaving the lighthouse with his daughter, had come to the definite conclusion that the North Sunderland lifeboat could never row the five miles to the wreck in the face of the terrible gale. He was, therefore, surprised when seven men (one of them his son Brooks) entered the lighthouse an hour after the rescue. These brave men had not come in the lifeboat, but in a large herring-coble, as they considered the lifeboat too light to be rowed against the strong wind. They reached the wreck after a terrific struggle to find three lifeless bodies on the rock. These they carried to the top of the rocks, and then with difficulty made their way to the Longstone, return to the mainland being impossible. In fact, so bad was the storm that the whole party had to remain on the Longstone from Friday till Sunday, by which time the storm had sufficiently abated to allow them to make Beadnell harbour, the swell preventing a landing at North Sunderland. This fact proves how serious the gale was. William Darling always minimised the actions of himself and daughter, maintaining that the real danger was incurred by the North Sunderland lifeboat crew. Darling's modest entry in his journal reads as follows: "About 4 a.m. on the 7th, the Forfarshire struck the west point of Harker's rock, and in fifteen minutes broke through by the paddle-axle, and drowned forty three persons, nine having previously left in their own boat, and nine others held on by the wreck and *were rescued by the Darlings.*" Note the last five words. It was only when this modest man was ordered by Trinity House to write a full report of the wreck that record was written by Darling. This report is such a human document, and such a palpably true account, devoid of any exaggeration, that I have no hesitation in giving it to you in full with all its errors of grammar and spelling:

"Being requested by J. Herbert Esqr., Secr., Trinity House, London, for a detailed account of what was done by my daughter and myself on the 7th Septr., '38, followes the Answer to.

"DEAR SIR,

"In answer to your request of the 29 Ult. have to state that on the Morning of the 7th September, it Blowing Gale with rain from the North, my Daughter and me being Both on the alert before high water securing things out of Doors, one quarter before five my Daughter observed a Vessel on the Harkers rock; but owing to the Darkness, and sprey going over her, could not observe any person on the Wreck although the Glass was Incessantly applied, untill near 7 oclock, when the tide being fallen we observed three or four Men upon the rock; we agreed that if we could get to them some of them would be able to assist us back, without which we could not return; and having no Idea of a Possibility of a Boat coming from North Sunderland, we amediately Launched our Boat, and was enabled to gain the rock where we found 8 men and 1 women, which I judged rather two many to take at once in the state of Weather; therefore took the Women and four Men to the Longstone about 9 oclock; afterwards the Boat from N. Sunderland arrived and found three Lifeless Bodies, Viz. 1 Man & 2 Children, which they carried to the High Rock, and came to the Longstone with great Difficulty, and had to lodge in the Barracks two Days & Nights, with scant pro-visions, No beds nor cloths to change them with.

Your Most Obedt. Servant, Wm. Darling."

REWARDS.

Much was made of the Darlings after their heroic act. The Royal Humane Society granted gold medals (their highest award) to both father and daughter. Hugh, 3rd Duke of Northumberland, President of the Society, handed the medals to the Darlings at Alnwick Castle, together with other gifts. Other societies sent medals. Trinity House awarded a Free Bounty of £10 to William Darling, and Her Majesty Queen Victoria gave £50. Lloyd's awarded £20, and altogether over £750 was raised, and the Duke of Northumberland acted as Trustee. Grace wrote personally thanking all donors of money and gifts, but the present that seems to have appealed to her most was a work-box, of which she wrote: "the usefulness of such an article can only be judged by people like myself, who have had three or four places to search when a little job is to be done."

Grace had many offers of marriage, also of well-paid work on the mainland, but she continued to be the unspoilt Grace Darling, living on the lighthouse as before, looking after her father and mother, and refusing to be exploited. She was pestered by reporters and especially by painters (it being before the days of photography), and the father had to write to the Editor of a paper as follows: "Please acquaint the Public in your paper that within the last 12 days I and my daughter have sat for no less than 7 portrait painters, etc. It is attended with a great deal of inconvenience; it would require me to have nothing else to do."

AFTER-EFFECTS.

The heroic action of Grace Darling had many repercussions tending to lessen the dangers of sea travel. Steamboats were compelled to be certified and classed at Lloyd's, whereas this had previously been optional. Ships' engineers had to pass a stiff examination to prove their competence. Later on, the Plimsoll mark, to guard against overloading, was instituted, and in many other ways the dangers of sea travel were minimised by the passing of useful laws.

LAST DAYS.

In the spring of 1842 Grace visited her brother, who was lighthouse keeper at Coquet Island, and whilst returning to the shore got wet and caught cold. This cold brought on consumption. She went to Wooler for a change of air and afterwards to Alnwick, where the Duke and Duchess did all they could for her. Knowing she was doomed, she desired to be taken to her sister's house at Bamburgh, the same house she had been born in, and there she died on 20th October 1842.

An admirer of Grace has written: "In truth it may be said of Grace Darling, 'though dead she yet speaketh.' Her heroism speaks, her generosity and kindly nature speak, her religion speaks, her general character speaks, and her manner of dying speaks: and, using the old simile, just as the stone thrown into a pond causes ripples to move over the whole surface of the water to the shore, so the lesson from her life, simple, yet glorious, shall never die."

THE FLODDEN WINDOW IN THE PARISH CHURCH OF ST LEONARD, MIDDLE- TON, IN THE COUNTY OF LANCASTER.

By COLONEL GERARD F. T. LEATHER

EVERY story of Flodden tells of the useful work performed by the Cheshire and Lancashire archers, under Sir Edward Stanley, but few people know that a village in Lancashire has a contemporary memorial window to these brave men. The Parish Church of St Leonard, Middleton, Lancashire, has a stained-glass window called the Flodden window. This window was placed in the church in 1524 by Sir Richard Assheton, who commanded the archers sent from Middleton to join Sir Edward Stanley's contingent at the battle.

Sir Richard was thirty-two years old at the time of the battle, and so distinguished himself, that he was knighted upon the field of battle. He dedicated his banner and armour to St Leonard, and in the manorial chapel, a flag, helmet, sword, and spurs, supposed to be the same, can still be seen.

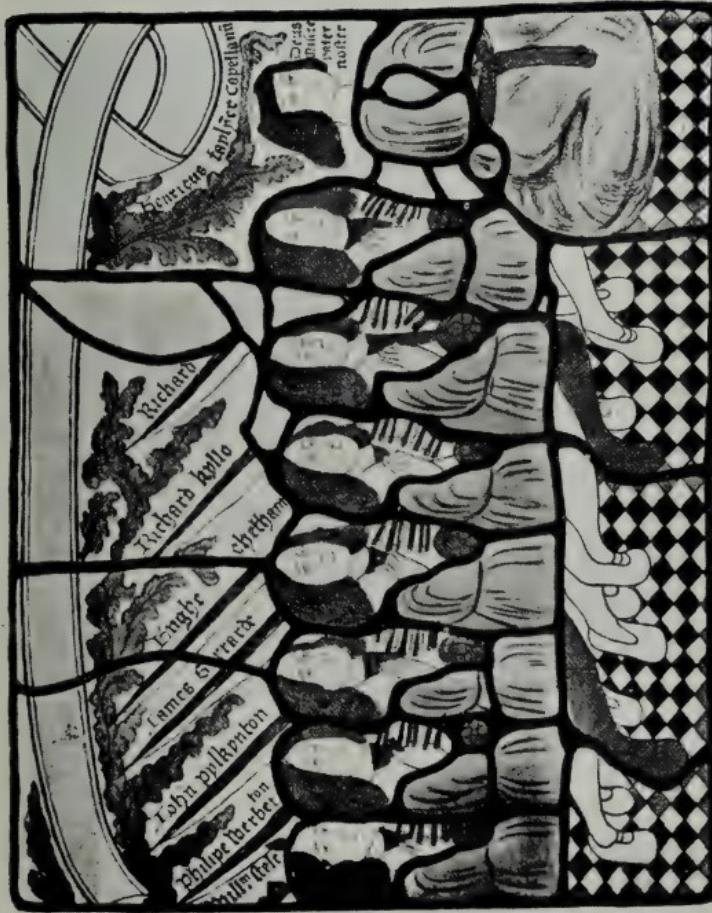
The fragments of a window, placed in the Church at that time, form a valuable memorial, and show Sir Richard and his lady, and other leaders. The archers, in blue jerkins, headed by their Chaplain, Henry Taylyer, are represented kneeling in Church before going forth to war. Each archer has a sheaf of arrows at his back and a longbow, to which his name is attached, and some of these names may still be deciphered. In olden days, Middleton Hall was a military school for the sons of the Lancashire gentry, and place names such as "Butts" in Hopwood, and "Archer Park" derive their names from the practice of archery.

The Flodden window, through neglect during more than 400 years, is now very fragmentary, and would probably have ceased to exist, had it not been that in 1636 the Reverend Richard James, a fellow of Corpus Christi College, Oxford,



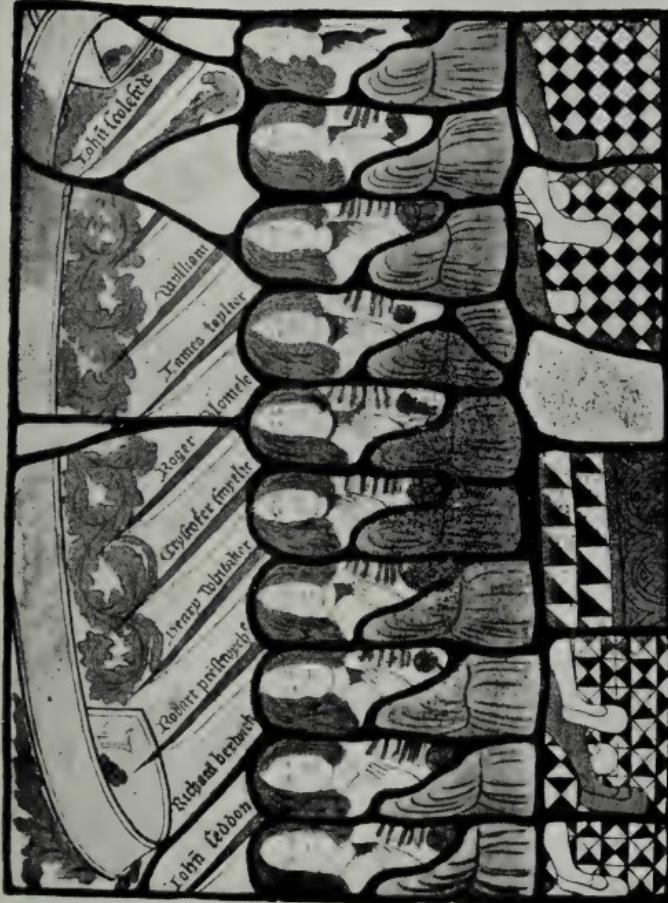
Sir Richard Astheton and Dame Anne his wife.
anno dñi mcccxxviii.





cerunt quodrum nonna et magistrum ut supra ostenduntur anno dñi mccccv.





Orate pro bono statu Rutherfordi Atherton et corum qui hanc fenestrā fieri s̄e-



visited the district and wrote a quaint and curious poem in which he gives a detailed description of the window as it appeared at the time of his visit.

About 150 years later, an unnamed gentleman took an etching of the window, the original copper plate of which, after it had been lost for more than a century, was fortunately discovered in 1903. From this plate we are able to give a reproduction of two sections of the window showing Sir Richard Assheton and his wife, anno domini 1524; also some of the archers with their priest in front.

SAINT CUTHBERT.

By HALBERT J. BOYD.

IT is impossible to understand the life and work of this great Saint unless we rid our minds of the conditions in which we live to-day and try to picture the Border country and its people as they existed some thirteen hundred years ago. Wipe away a great part of this civilization and cultivation; dismiss the Christianity which we accept as a matter of course, with its cathedrals and parish churches, and picture a land much of which was unclaimed, forest, swamp and heath, and a fierce and warlike people who only about thirteen years previously had heard of this new religion for the first time, some few accepting it.

What had been the prevailing faith? The Saxons worshipped the Scandinavian Thor and Woden. The Cymric tribes believed in Animism which attributed a soul to inanimate objects. Thus rivers, forests, springs and hills had guardian spirits who had to be propitiated. The Druids who were the priests of the cult practised incantation. It was a religion which sanctioned frightful licentiousness and cruelty. Strange how these early beliefs linger still in childish tales of fairies, brownies, hobgoblins and the like.

A champion of the new teaching was Oswald, King of Northumbria, who during a period of exile had taken refuge in Iona the home of the Columban monks, and had been converted by them. On gaining the throne he sent for one of them to assist him in Christianising his subjects. The first missionary, having failed, was followed by Aidan. Lindisfarne was chosen as the site of the new monastery and the work of evangelization was begun.

Meanwhile over the river Tweed and in the valley of the Leader a shepherd boy was tending his master's flocks. He was named Cuthbert. Irish tradition claims that he was born in that country, the son of royal parents. But scholars

to-day believe that he was probably of humble Saxon birth and that, being orphaned at the age of eight, he was brought up by a widow named Kenspid at the village, now demolished, of Wrangholm, near Smailholm. That he was employed as a shepherd on the banks of the Leader seems certain.

A legend of his boyhood tells that being athletic he was able to excel all his companions in games and physical exercises. One day a small boy approached him and asked whether it was seemly that he, Cuthbert, destined to be priest and bishop, should so contort himself. At once he abandoned his practices.

In childhood as in later life he was of a sweet and lovable nature and even then showed indications of the wonderful spirituality that was to be developed as years advanced. A turning-point was reached in his fifteenth year. One night on the hillside he was with his sheep when a vision broke upon him. A light streamed from Heaven to earth, and in that beam he saw angels descend. Almost at once they reappeared bearing with them a human spirit of great brightness. Then night closed again. Next morning he told his companions what he had seen, adding that he knew he had witnessed the passing of the soul of some saint. Shortly afterwards news reached them that, at the moment of the vision, in distant Lindisfarne, Aidan the Abbot had died.

Immediately Cuthbert's decision was made. The vision was a call. He set off for Melrose, not the Abbey that we know, but the original foundation beneath the crags of Bemerside, and asked to see the Prior, Boisil. His name survives as that of the village of St Boswells, not far from where the old monastery stood. There must have been something extraordinarily striking in the face of the lad. Again and again throughout his life we find it referred to. It struck Boisil immediately. Turning to an old monk who stood near, "Behold a servant of the Lord," he said. Eata, the Abbot, was absent at the time; but a few days later on his return Cuthbert was admitted as a monk to the fraternity.

Let me here say a word as to the Columban monks of that time. It is difficult for us to understand the obstacles with which they had to contend in paganism: its corruption, violence and immorality. These brethren were not great scholars; they numbered none of outstanding intellect, but they did

produce men of such saintly lives as have never been excelled in the history of the Church. In combating those who opposed them they did not attempt to argue their cause, as others might have done. They asked and obtained permission to live amongst the people. They showed an example of purity, unselfishness and love, which overwhelmed in its novelty and power all who beheld it. Then, and not till then, they began to teach.

At Melrose Cuthbert remained for nearly thirteen years. We are told that in discipline, devotion and study he surpassed all others. He was beloved by all, but especially by his instructor, the Prior, Boisil. The character which he had established was such that when the Abbot, Eata, was appointed as head of the monastery of Ripon, he chose Cuthbert to accompany him as Hostillar, or Guest Master. A legend tells that on one occasion he received a traveller whose feet he washed and whom he conducted to the guest-room for entertainment. Cuthbert left him in order to procure food. When he returned the man was gone, having left behind him bread of amazing whiteness and delicacy. No trace of his footsteps could be found in the snow which lay without. Cuthbert perceived that he had entertained an angel unawares. He did not remain long there. Disputes arose with which I will not detain you. They concerned matters which seem trivial to us, such as the size of the tonsure and the date for keeping Easter. As a result Cuthbert and Eata were driven out and returned to Melrose.

The joy of home-coming was marred by a dreadful catastrophe. Plague broke out and ravaged the whole neighbourhood. Among its victims were Cuthbert and his beloved teacher, the Prior Boisil. Cuthbert's life was in great danger; but the brethren gathered and spent a whole night in prayer for his recovery. Next morning he was told of their devotion. It was impossible, he declared, that such intercessions should be unavailing. He called, therefore, for his staff and shoes, at once arose and quitted his cell, recovered.

Though Cuthbert was restored to health, it was evident that Boisil must die. The Prior knew that his end was near. Cuthbert watched by him continuously. Boilis's copy of St John's Gospel was stitched into seven sections. They read

and meditated upon one each day, the old Saint instructing the younger, until the last was reached. Picture the cell, the one monk sitting beside the plank bed of the other, Cuthbert reading, the dying man commentating, until the end. With his last breath Boisil foretold that his pupil would one day be a bishop.

Cuthbert was elected Prior and at once commenced unflagging missionary journeys. We are told that no valley or dale of the wild Border country was too remote or too inaccessible for him. I like to think of the solitary monk making his way through the Forest and by the marshy bed of the Yarrow, startling the deer and the prowling wolves, stared at by the wild hill men, gathering them around him, speaking to them. Here we read again of that wonderful light on his face. I believe it was no myth, but a fact. Because of it, we are told, the people were drawn to him, poured out their hearts to him, telling him of their troubles.

No doubt also true is the story how one day, while he and a boy companion were on the banks of the Teviot near where the town of Kelso now stands, they were starving. Cuthbert prayed and in answer an eagle dropped a salmon from her claws. The boy ran and seized the fish. But Cuthbert rebuked him and bade him return half to the bird. "Let our handmaid have her share," said he.

Another legend of this period tells that when visiting the saintly Abbess Ebba and her nuns at Coldingham it was his custom to go out alone at night. A certain monk was suspicious of his purpose and followed him, spying. He found him standing up to his waist in the sea, in which he continued all night long, praying, in self-imposed discipline. As morning broke the saint emerged; whereupon two otters approached and rubbed their fur against his legs, warming him. The spy, ashamed of his suspicions came and flung himself at the saint's feet, imploring pardon. He was at once forgiven; but on condition that he did not reveal what he had seen during Cuthbert's lifetime.

Certainly he shared with St Francis and other saints a great love for wild creatures, a love which was returned by them. Of his activities at this time there are many records. He planted a number of churches among which was probably

one at Lindean, the parent church of Galashiels. For over twelve years he continued at Melrose; but on the appointment of Eata as Abbot of Lindisfarne, he took Cuthbert with him as Prior in order that he might establish better discipline among the monks. He seemed to have encountered some difficulty in his task. He was harassed by the taunts of those who opposed him. On such occasions it was his custom to arise from his seat with unruffled, placid face and to dismiss the meeting. On the following day he would begin again exactly where he had left off, as if no trouble had arisen. In this way he won obedience. The sick and suffering in mind and body resorted to him in increasing numbers as his fame spread, and many miracles of healing are attributed to him. It was said of him that, "no one went away from him without the joy of consolation and no one took back with him the grief of mind that he had brought." It was his custom to retire to the little island near there to spend time in prayer and meditation.

We see him pictured as a man of naturally strong, athletic build, a little above medium height and of fresh complexion. True to their Celtic tastes other monks preferred colour in their clothing, but he discouraged such vanity, and his own monkish habit was of undyed homespun. In winter he wore a long cloak made of such strong material that it resisted rain.

For over twelve years he continued as Prior and then announced his intention of adopting the life of a recluse.

It may seem to us a waste that a man who was of so much use to the world should retire from it. Opinion depends on the point of view. To them prayer and intercession was of such intense reality that one who had perfected this power could, by it, do more to assist his fellow-men than in material ways.

So it seemed to Cuthbert. He withdrew from the Monastery, at first to a cave on the mainland, probably that near Howburn, still named "Cuddy's Cove," a corruption of "Cuthbert's Cave." He did not, however, remain there long, but migrated to Farne Island. He found it haunted by evil spirits which he banished to the adjoining island of Weedum (now Widenopen). A graphic description is given of these ghostly enemies,

as they were afterwards seen, by the monks. They were clad, they said, in cowls and rode upon goats, black in complexion, short in stature, their countenances most hideous, their heads long, and the whole band horrible in appearance. Against them a fence of straw, signed with the Cross, was fixed in the sands. Around this barrier the fiends would ride before leaving the horrified spectators.

On Farne Cuthbert built his dwelling. It probably resembled the Celtic buildings of Ireland, round, made of large stones. Legend tells of angels who assisted the saint to carry these. Externally, the walls were about the height of a man; but within he lowered the level of the ground so that sight of the world might be excluded. The roof was made of beams thatched with straw. There were two chambers—an oratory and his living-room. Near the landing-place he constructed a larger house for the accommodation of his visitors. The island was without water; but in answer to Cuthbert's prayers a well broke forth by the Hospitium, and after he and some of the monks had dug in the centre of his cell, water gushed up. During a subsequent occupation of the island by the Danes this well dried, but reappeared after their departure.

Here for nine years Cuthbert lived in seclusion. At first food was brought to him from the monastery; but as time passed he determined to live by his own industry. Wheat refused to grow; but with barley he had better success. He rebuked the sparrows which ate his crop and they immediately departed. The sea-birds of the island he blessed and he was wont to take the fledglings up in his arms and carry them while the parent birds followed him. The eider ducks were his especial care.

He was visited by the monks with whom he conversed through his window. But not only monks came; many of the laity, even from remote parts of the country, sought his blessing. So it continued until Ecgfrith, who had ascended the throne of Northumbria, wished to have Cuthbert appointed to the bishopric of Hexham.

At first Cuthbert refused; but the King in person, accompanied by his most powerful nobles and many Bishops, journeyed to Farne and, kneeling on the sands before his cell, besought the saint to accept the bishopric. To their pleading

he at length yielded, but reluctantly and only on condition that after two years he should be allowed to return to his cell again. Eata was chosen as Bishop of Lindisfarne.

Together these two journeyed to their former home, the monastery of Melrose, and there, at Eata's request, they agreed to exchange dioceses, Eata taking Hexham and Cuthbert Lindisfarne. Thus was Boisil's prediction, uttered twenty-one years before, fulfilled.

All Cuthbert's missionary energy was revived and churches were founded by him all over the north of England and south of Scotland. A second outbreak of plague scourged the land, and his visitation of the sick was unremitting. But, the two years stipulated drawing to an end, he announced his intention of returning to Farne. He travelled first to Lindisfarne. The monks assembled on the shore to watch his departure to his island. "Tell us, Reverend Bishop, when we may hope for your return?" asked one. "When you shall bring back my body," was the answer.

After less than three months, on the 27th of February 687, he was seized with mortal illness and so we come to the last scene of his life on earth. The new Abbot, Herefrid, with attendant monks, crossed from Lindisfarne and approached his cell. They gave their accustomed signal and he came to his window. In answer to their inquiries he told them he was ill; but he refused to permit any of them to stay with him. After he had blessed them they hastened away as a storm was approaching. For five days the storm raged, preventing their return. When at length they were able to reach him, they found him lying in the Guest House to which he had dragged himself and where he had lain throughout the five days and nights. The Abbot asked him how he had supported life. Cuthbert drew aside a mat and showed him onions, some of which he had eaten. He said that as he lay there, never had the powers of evil assailed him more. He directed that his body should be buried on the island in a stone coffin which was in readiness. But at the urgent request of the monks he consented to be interred in the Abbey. He was carried to his cell, two monks keeping watch over him, and there he lingered for a day or two. He seems to have crept by himself into his oratory to die. The Abbot found

him and begged for a farewell message. "Let peace and Divine love ever be among you," whispered the dying saint.

I do not propose to detain you by any account of his burial in the Abbey, or of the disinterment of his body on the invasion of the Danes, eleven years later. It was moved from place to place. Suitably enough it reposed at Melrose for a time and was afterwards floated down the river in a raft, thus giving rise to the legend that a stone coffin was his ship. At Chester-le-Street it remained for a century. Not until the year 999 did it find a final resting-place in Durham Cathedral. It seems to be a fact, attested by unimpeachable authority, that for eight hundred and forty years the body remained intact. His reputed grave was opened in 1827, but bones and certain reliques only were found.

Time and the sacrilegious hands of men have destroyed his cell and oratory on his wind-swept island; but he has left behind him that which cannot be destroyed; for the influence of his holy life is abiding, not only in time, but for Eternity.

THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

By Mrs BISHOP.

THE British Association met at Cambridge on 17th August. The Rt. Hon. Lord Rayleigh, F.R.S., delivered his Presidential Address at the inaugural meeting in the Regal Cinema at 8.30 p.m. on 17th August. His main subject was "Natural Vision and Vision aided by Science." In a supplementary part of his address he dealt with the relation of Science and Warfare, his argument being directed to show that these relations were in the nature of a by-product and had in no sense been the primary goal of investigation. Lord Rayleigh referred to the irreparable loss which Science in general, and Cambridge in particular, had suffered in the past year through the death of Lord Rutherford.

SUBSTITUTES FOR VISUAL OBSERVATION.

Lord Rayleigh spoke first of the mechanism of the human eye. "The use of lenses," he said, "is one of the greatest scientific discoveries. We do not know who made it. Spectacle lenses as we know them are a medieval invention, dating from about A.D. 1280." Referring to the telescope, he said there was no limit to what it could do, given perfect construction, in revealing distant worlds. It was only a question of making it large enough. On the other hand, there was a very definite limit to what the microscope could do—used with ordinary daylight.

"Colour vision is one of Nature's most wonderful achievements, though custom often prevents our perceiving the wonder of it."

SCIENCE AND WARFARE: A DELUSION EXPOSED.

The President said: "I believe that the whole idea that scientific men are specially responsible, and that Science is the

source of all the trouble, is a delusion born of imperfect knowledge of the real course of the process of discovery—invaluable in peace. Science might as well be blamed for the Gunpowder Plot or the Eruption of Vesuvius, and scientific men might be fiends, dreamers, or angels.” It never occurred to these men that their discoveries would be used in war. Much the same complaint was made before the Scientific era.

“Great pity, so it was,
This villainous saltpetre should be digged
Out of the bowels of the harmless earth,
Which many a good tall fellow hath destroyed
So cowardly.”

The quotation leads us to enquire how far the future development of this particular kind of frightfulness into modern high explosives was deliberate or not. In the course of systematic study of the chemistry of carbon compounds it was inevitable that the action of nitric acid on substances like benzene, glycerine, cellulose, and the like should be tried. No one could foresee the result. In the case of benzene we have nitro-benzene, the key to the aniline dye industry. In the case of glycerine, Sobrero obtained in 1846 the highly explosive liquid called nitro-glycerine. He meant no harm, and in fact his discovery lay dormant for many years. Nobel showed in 1863 how, by mixing nitro-glycerine with other substances, solid explosives could be made which admitted of safe handling. Dynamite was one of these. “They proved invaluable in the arts of peace, *e.g.* in mining and in making railway tunnels, such as those through the Alps, for instance.” Referring to Watts’ *Dictionary of Chemistry*, there is an article of less than forty words about mustard gas. After the method of preparation used by Victor Meyer has been mentioned, the substance is dismissed with the words “oil, very poisonous, and violently inflames the skin.”

RELIEF OF PAIN—DISCOVERY OF CHLOROFORM.

There are other compounds described at comparable length on the same page, none of them of any importance. A not uncommon type of critic would probably say that the investigation of them had been useless, the work of unpractical dreamers

who might have been better employed. One of these substances, mustard gas, is quite unexpectedly applied to war, and the production of it is held by the critics to be the work, not of dreamers, but of fiends, whose activities ought to be suppressed. Finally, at the bottom of the page, begins a long article on Chloroform. This substance has relieved a great deal of pain. The investigator who produced it was no doubt an angel of mercy. All the investigators proceeded in exactly the same spirit—that is, of scientific curiosity—and with no possibility of telling whether the issue of their work would prove them to be fiends, or dreamers, or angels.

Summing up what may be learnt from the experience of the past, said the President, I think we may say that the application of fundamental discoveries in Science to purposes of war is altogether too remote for it to be possible to control such discoveries at the source. For good or ill the urge to explore the unknown is deep in the nature of some of us. The world is ready to accept the gifts of Science, and to use them for its own purpose.

CONTROL IMPOSSIBLE.

Lord Rayleigh feared that little could be done, although one thing may be attempted. The Association has under consideration a division for study of the social relations of Science, which will attempt to bring the steady light of scientific truth to bear on vexed questions. He rejoiced to think that our distinguished American visitors are in sympathy with this aim, and hoped that the discussions with them would bear useful, if modest, fruit in promoting international amity.

Loud applause greeted the Master of Trinity, Sir J. J. Thomson, O.M., F.R.S., when he rose to propose a vote of thanks to Lord Rayleigh. He said he had listened, not only with pleasure, but with pride to the Presidential Address, for, said he, "I can boast that the President is an old pupil of mine and had a close connection with Cambridge, being the son of one Chancellor of Cambridge University and the nephew of another." Sir J. J. Thomson said that Lord Rayleigh had written what he thought was the best biography of a scientific man. It was the biography of Lord Rayleigh's father. In reading it one saw that some of Lord Rayleigh's qualities were inherited, and

he considered that the writings of Lord Rayleigh's father were models for the writing of scientific papers.

The vote of thanks was seconded by Dr G. B. Birkhoff, past-President of the American Association for the Advancement of Science. He referred to the deep respect and amity, based on the adherence to common ideals, which members of the American Association cherished towards those of Great Britain.

There were two evening discourses for members: "The History of the Fens," by Dr H. Godwin on 19th August, and "The Contribution of the Electrical Engineer to Modern Physics," by Professor M. L. Oliphant on 22nd August.

A semi-popular lecture on "Lake Titicaca" with lantern slides by Mr H. C. Gilson was most enjoyable, and equally interesting was an exhibition of biological films under the direction of Dr J. S. Huxley, F.R.S., "Mites and Monsters, Monkey and Man."

The official sermon was preached by the Rt. Rev. the Bishop of Winchester in Great St Mary's Church on Sunday, 21st August, at 10 a.m., and numerous were the services held in so many places of worship, and as heretofore there was the usual lecture by Commissioner Lamb, C.M.G., LL.D., of Salvation Army fame. His subject was "Outcroppings." The Chairman was the Mayor of Cambridge.

With utmost interest each morning did I attend the Educational Section, and was much interested in the discussion on "Education for a Changing Society," which was spread over several days.

Another joint discussion with Psychologists on "The Educational Significance of the Cinema and Wireless" was likewise most interesting.

There was some excitement in the minds of the general public caused by a lecture in the Engineering Section by Professor F. C. Lea regarding an invention for motor cars. The device can be fitted to a car instead of a clutch and gear-box, making motoring simpler, safer, and cheaper, and is likely to revolutionise the motor world. Many people sought interviews with Professor Lea.

An excursion to Ely Cathedral made a pleasant interlude in the busy week, and one to Saffron Walden *via* Gogmagog Hills, Ickleton, and Bartlow was most enjoyable.

There was a new departure at this meeting—an exhibition of works of art by members. (I made bold to show a hand-painted floral tea-set.) There was a fine collection of pictures, and some fine beaten brass work.

Specially interesting to some of us was the rare collection of photographs taken by members of the Scientific Delegation which visited India in December and January last, on the occasion of its Jubilee meeting. They recalled many happy memories.

Possibly the greatest thrill of all was the short series of lectures given by a few members of the Scientific Delegation in India on the evening of 23rd August. Sir James Jeans, F.R.S. (President of the Indian Science Congress Association, Jubilee meeting), occupied the chair. Professor Winifred Cullis (London), Professor Darwin, Professor Tattersall, and Dr Venn (Queen's College, Cambridge) of our party, gave their impressions of India. Dr Venn, in summing up, said: "My recollection of India was not of the snow-clad Himalayas, nor of the majesty of the Taj Mahal, nor of the seething river scene at Benares, nor of the crowded cities of the plains, but rather of a native child with a water-buffalo in a village pool, of a woman grinding corn, or of peasants ploughing." He quoted Kipling's lines—

"The East bowed down before the blast
In silent, deep disdain.
She watched the legions thunder past
And plunged in thought again."

He compared these legions to the Horsemen of the Apocalypse—Famine, Plague, and War.

A specially fine set of lantern slides were shown. These were kindly lent by the widow of Dr Tatton, one of the delegates. With utmost joy did we view many fine photographs of our wonderful trip which were displayed in the reception room. To behold bamboos, sugar-cane, tea, and all the tropical vegetation was wonderful. To visit tombs, temples, stupas opened one's eyes to the fact that we were in a country which could boast of a much older civilisation than our own, and to converse with educated, cultured Indians gave one great pleasure.

The Taj Mahal, in all its purity, was a never-to-be-forgotten sight. We took off our shoes, for the place whereon we stood

was holy ground. Little wonder that Shah Jehan remarked, "If there be a Paradise on earth, it is this; it is this; it is this."

It was wonderful to spend the latter days of the old year among the highest mountains of the world, and to see the New Year dawn on the mountain-tops. To have seen Mount Everest is unique, but who can adequately describe the beauty of Kanchenjunga hanging like a picture in the sky?

We bade farewell to the East with much regret. We might well agree with Ramsay MacDonald that "Wanderlust is the most precious of all the troublesome appetites of the soul of man."

The obituary notice of Dr J. S. Muir is unavoidably postponed. It will appear in our next issue.

SOME PLANTS FOUND DURING 1938.

By JOHN BROWN.

Name.	Place.
<i>Trollius Europaeus</i>	Coldingham Moor. B.
<i>Aconitum napellus</i>	Foulden. B.
<i>Glaucium flavum</i>	Cockburnspath. B.
<i>Cardamine flexuosa</i>	Newton Don. R. Chillingham.
<i>Lepidium Smithii</i>	Near Lauder. B.
<i>Reseda lutea</i>	Mount Pleasant. N.
<i>Teesdalia nudicaulis</i>	Brandon. N.
<i>Lychnis alba-x-dioica</i>	Harpertown. R.
<i>Arenaria verna</i>	St Abbs. B.
<i>Montia fontana</i>	Brandon. N.
<i>Geranium sylvaticum</i>	Longformacus. B.
<i>Geranium lucidum</i>	Stichill Linn. R.
<i>Melilotus officinalis</i>	Sea Banks, Berwick. N.
* <i>Melilotus indica</i> (Garden weed)	Berwick. N.
<i>Trifolium dubium</i>	Brandon. N.
<i>Geum intermedium</i>	Newton Don. R.
<i>Drosera rotundifolia</i>	Drone Moss. B.
<i>Myriophyllum spicatum</i>	St Abbs Loch. B.
<i>Callitricha vernalis</i>	St Abbs Loch. B.
<i>Callitricha intermedia</i>	Brandon. N.
<i>Apium nodiflorum</i>	Waren Mill. N.
<i>Sium latifolium</i>	Newham Bog. N.
<i>Galium Witheringii</i>	West Newton. N.
<i>Valeriana pyrenaica</i> (alien)	Sanson Seal. B.
<i>Valeriana officinalis</i>	Grantshouse. B.
<i>Valeriana sambucifolia</i>	Tweedside, Paxton. B.
<i>Matricaria suaveolens</i>	Canty's Bridge. B.
<i>Carduus crispus</i>	Wooler. N.
<i>Silybum Marianum</i>	Pier House Garden, Berwick. N.
<i>Crepis paludosa</i>	Newham Bog. N.

Name.	Place.
<i>Oxycoccus quadripetala</i>	Drone Moss. B.
<i>Pyrola minor</i>	Catcleugh. N.
<i>Trientalis Europaea</i>	Coldingham Moor. B.
* <i>Erythræa Turneri</i>	Ross Links. N.
<i>Atropa Belladonna</i>	Chatton. N.
<i>Mentha rotundifolia</i>	Brandon. N.
<i>Thymus ovatus</i>	West Newton. N.
<i>Scleranthus annuus</i>	Brandon. N.
* <i>Salix repens argentea</i> (erect variety)	Belford Moor. N.
<i>Listera cordata</i>	Coldingham Moor. B.
<i>Anacamptis pyramidalis</i>	Sea Banks, Spittal. N.
<i>Gymnadenia conopsea</i>	Dodds Well, Berwick. N.
<i>Cæloglossum viride</i>	Ross Links. N.
<i>Platanthera bifolia</i>	Gordon Moss. B.
<i>Narthecium ossifragum</i>	Drone Moss. B.
<i>Schænus nigricans</i>	Newham Bog. N.
* <i>Molinia cærulea</i>	Coldingham Moor. B.
* <i>Glyceria aquatica</i>	Newton Don. R.
<i>Samolus valerandi</i>	Ross Links. N.
<i>Elymus arenarius</i>	Behind Berwick Pier. N.
<i>Asplenium Trichomanes</i>	Chillingham. N.
<i>Amsinckia lycopooides</i>	Inner Farne. N.
<i>Glaux maritima</i>	Inner Farne. N.
<i>Silene maritima</i>	Inner Farne. N.
<i>Cochlearia Danica</i>	Inner Farne. N.
<i>Plantago coronopus</i>	Inner Farne. N.
<i>Chelidonium majus</i>	Chatton road end from Berwick. N.
<i>Arenaria trinervia</i>	Chillingham. N.
<i>Carduus heterophyllum</i>	Catcleugh. N.
<i>Anchusa sempervirens</i>	Catcleugh. N.
<i>Lysimachia nemorum</i>	Catcleugh. N.
<i>Listeria ovata</i>	Newton Don. R.
<i>Conium maculatum</i>	Newton Don. R.
<i>Hypericum perforatum</i>	Newton Don. R.
<i>Hypericum dubium</i>	Newton Don. R.
<i>Hypericum pulchrum</i>	Newton Don. R.
<i>Sanicula Europaea</i>	Newton Don. R.

Name.		Place.
<i>Senecio aquaticus</i>	.	Newton Don. R.
<i>Hippuris vulgaris</i>	.	Newton Don. R.
<i>Arum maculatum</i>	.	Newton Don. R.
<i>Geranium lucidum</i>	.	Newton Don. R.
<i>Typha latifolia</i>	.	Newton Don. R.
Ettrick and Yarrow outing	.	<i>Parnassia palustris</i>

CORRECTIONS: vol. xxiv, part 2, 1936.

Dipsacus pilosus and *Verbascum nigrum* are garden outcasts, probably thrown into the river at Longformacus. They are still growing at Ellemford.

Peucedanum ostruthium: this plant does not grow at West Barnes; the plant mistaken for it is a variety of *Heracleum Sphondylium*.

Beta maritima; vol. xxvii, p. 321, this is a mistake.

Erratum.—xxix, iii, p. 277. For *capstone* read *lapstone*.

* Not mentioned before.

ORNITHOLOGICAL AND OTHER NOTES.

By R. CRAIGS, CATCLEUGH, 1938.

- Jan. 1. Water-rail in pond at Beal.
,, 28. Goldfinch at Cottonshopeburnfoot.
- April 16. Ring Ouzel returns. (W. Murray, Chattelehope.)
,, 23. Willow Warbler returns.
Tree-creeper in clump at Catcleugh Farm.
- ,, 26. Flock of Fieldfares flying N.W.
Cuckoo heard.
- ,, 27. Sandpiper arrives. Wheatear seen.
,, 29. Coot on Reservoir, a rare straggler.
,, 30. Swallow and Tree Pipit return.
- May 5. House Martin returns. Great influx of Willow Warblers.
,, 7. Flock of about 50 Fieldfares flying N.W.
Over 30 Golden Plovers in a meadow at Spithope-haugh.
This early flocking appeared to be the result of early nesting, for very few adult birds were afterwards seen on the upland flowes.
Swallows and Sand Martins were also seen in greatly increased numbers.
Found Coal Tit's nest with 8 eggs.
- ,, 8. Whinchat arrives, a late occurrence, and it was some days ere I saw another.
- ,, 11. Male Golden Eye on Reservoir.
- ,, 13. Wood Warbler returns. This species showed a marked increase over previous years.
- ,, 14. Whitethroat arrives.
- ,, 15. Watched a pair of Grey Wagtails feeding fledged young among the alder roots on the banks of the Rede at Blakehopeburnhaugh.

- May 15. Great Spotted Woodpecker in Deadwood.
Heard Grasshopper Warbler at Rookery Road End,
also Sedge Warbler at Byrness.
- ,, 16. Garden Warbler returns.
,, 17. Grasshopper Warbler at Whitelee.
,, 18. Great increase of House Martins.
,, 22. Two Swifts flying around Catcleugh Farm.
,, 23. Spotted Fly-catcher returns.
,, 27. Oyster-catcher flying around Reservoir.
- June 1. Tree-creepers in Reservoir Grounds.
,, 4. Five Oyster-catchers on Reservoir Embankment,
apparently a family party.
,, 7. Redstart's nest found in shed.
,, 9. Two Deer seen on Carter Fell.
,, 26. Kingfisher and Great Spotted Woodpecker seen at
Old Melrose.
,, 29. Cuckoo last heard.
,, 30. Informal Meeting of B.N.C. at Catcleugh; on that
date a pair of Barn Owls were rearing a brood of
four in the pigeon-cot at Catcleugh Farm.
- July 1. Crossbills in Reservoir Grounds.
,, 19. Four Crossbills in Reservoir Grounds.
,, 21. Two Terns circled high over Catcleugh and then flew
away in an easterly direction.
,, 23. Five adult Adders seen in one coil by the Rookery
Burn side.
Heard Grasshopper Warbler at Blakehopeburnhaugh.
,, 25. Corncrake at Whitelee, the only record I have for the
year.
,, 31. Greenshank at Colt Crag Reservoir.
From High Cowden I watched a pair of Mute Swans
circling around Colt Crag Reservoir. They flew
away to the west, and I kept them in view with my
glasses until they disappeared from view behind
Sewing Shields; approximately a distance of eight
miles. I had an unobstructed view all the time.
- Aug. 1. Tern flying west.
,, 14. Three Crossbills in woods.
,, 15. Hawfinch in Reservoir Grounds. Frequently seen
afterwards.

- Aug. 16. Goldfinch at Elishaw.
,, 27. A few Curlews still lingering in Upper Redesdale.
,, 28. Goldfinch's nest with four young in a hawthorn hedge
at Cessford, Roxburghshire.
- Sept. 3. When fishing in the Rede I saw a Kestrel seek shelter
during a heavy shower beneath an overhanging
turf on the river bank.
,, 29. House Martin last seen.
,, 30. Little Grebe on Reservoir.
- Oct. 1. Two Twites in Reservoir Gounds.
,, 4. Swallow last seen.
,, 7. Heard and saw Willow Warbler in the grounds, a
very late occurrence.
,, 12. Discovered that Barn Owl had second brood in
pigeon-cot at Catcleugh Farm, but owing to the
entrance being blocked up with hay I could not get
in to see what number of chicks she had.
,, 19. Several small flocks of Geese flying S.E.
,, 20. Raven croaking over Babswood.
,, 24. Fieldfares first seen. My latest record.
,, 28. Male Tufted Duck on Reservoir.
- Nov. 11. Five Redwings flying S.E., also my latest record for
the species.
,, 16. I again heard Willow Warbler.

On 8th October a Quail (*Coturnix coturnix*) was brought to Mr Porteous. It had been shot near Edrom, and was one of a small bevy which was seen several times. Possibly too it was one of those reported from Edrom by Colonel Logan Home early in the summer. Though the quail is distinctly rare in Britain, it is found somewhere in the island most years. Coward states "It is a regular visitor in very irregular numbers." Previous mention of the bird in the *History* is: Lesbury, Chirnside, Lauderdale (1871); Eccles (1875, birds liberated); Oldhamstocks (1874-5, frequent); Kelso (1876, nesting); Scremerston (1876); Cocklaw (1876, known from 18 to 20 years); Bowhill (1876, known for 35 years); Unthank, near Berwick (1878); Billielaw (1878); Weetwood (1878); Turvelaws (1880); Ancroft, near Boulmer, Portmore (1859); Un-

thank, Scremerton, and Mousen (1886-8); Branton (1893); Unthank (1931).

Mr Tait reports a young Male Goldfinch late in September from Coldingham churchyard. Also four Ravens in the spring, and eight on a stubble-field in November, both observations being from Coldingham.

Mr Craster reports a Nightjar on 28th September, a Black Redstart on 23rd October, and a Buzzard on 15th November.

METEOROLOGICAL OBSERVATIONS IN BERWICKSHIRE DURING 1938.

Compiled by the Rev. A. E. Swinton of Swinton, M.A., F.R.Met.S.

METEOROLOGICAL OBSERVATIONS FOR 1938

105

Month.	Temperature.		Days with Temperature at or below 32°.				Bright Sunshine.				Wind Movement. Miles.														
	Maximum.	Minimum.	Hrs. with Sun.	Days with Sun.	Hrs. with Sun.	Days with Sun.	Hrs. with Sun.	Days with Sun.	Hrs. with Sun.	Days with Sun.															
January	49	54	58	55	54	55	19	26	22	18	24	25	16	11	9	15	51.2	24	59.9	21	51.0	20	2,467.6		
February	51	55	55	57	57	50	26	33	28	23	27	26	18	8	11	16	7	12	51.6	21	62.1	19	55.5	20	2,443.9
March	62	60	62	65	62	58	28	29	30	27	31	28	4	3	3	5	2	2	93.5	25	100.0	26	88.5	24	2,949.5
April	63	62	62	65	63	63	24	30	29	24	25	20	16	5	4	8	9	131.5	29	126.1	28	102.6	27	1,517.5	
May	72	67	65	71	67	67	26	30	30	28	24	23	4	2	5	5	4	4	168.8	26	156.5	26	162.3	26	1,832.5
June	73	73	72	79	73	72	40	42	40	40	39	..	..	..	..	..	..	161.7	29	156.7	27	148.6	28	1,536.5	
July	74	73	71	77	71	71	42	41	40	40	41	41	..	..	..	..	..	..	115.2	30	104.6	25	108.2	28	905.4
August	76	73	75	80	74	75	35	39	39	36	33	36	..	..	..	..	..	..	147.8	26	142.4	27	142.1	26	711.5
September	64	71	71	78	73	67	39	40	39	37	36	32	..	..	..	..	..	..	107.0	24	109.4	22	102.5	21	747.1
October	65	59	62	64	64	64	35	34	32	28	32	28	..	..	..	..	..	..	78.8	27	95.8	29	87.2	29	1,219.5
November	58	60	62	63	61	58	28	29	28	24	28	20	16	4	4	11	4	7	53.7	24	63.5	24	57.5	24	1,795.0
December	48	50	50	51	52	48	21	25	24	21	24	18	23	12	15	20	14	24	41.1	18	47.8	19	38.9	19	1,900.0
Year	76	73	75	80	74	75	19	25	22	18	24	18	97	45	52	84	49	75	1201.9	303	1224.8	293	1144.9	292	20,026.0

RAINFALL IN BERWICKSHIRE DURING 1938.

Compiled by the Rev. A. E. SWINTON of Swinton, M.A., F.R.Met.S.

Station.	Height above sea-level.	St Abb's Head.	Tweedhill.	Whitchester.	Oxendean (Duns).	Duns Castle.	Manderston.	Nisbet House.	Lochton.	Marchmont.	Cowdenknowes.	Swinton House.	Dura-	
													tion.	
Month.														Hours.
January	3.03	..	2.53	2.96	3.07	2.45	2.69	2.48	2.54	2.77	3.06	59.3		
February	..	62	1.17	.92	.72	1.41	.78	.83	.77	.85	1.34	24.4		
March	..	58	..	.52	.62	.64	.74	.68	.69	.73	.74	7.7		
April	..	37	..	.30	.25	.30	.28	.26	.23	.23	.38	4.6		
May	..	250	..	2.52	2.79	2.75	2.34	2.30	2.65	2.37	2.90	1.94	49.2	
June	..	2.62	..	4.35	4.21	4.23	4.27	3.71	3.44	2.75	4.03	3.57	48.3	
July	..	2.91	..	3.95	3.29	3.25	3.31	2.96	2.29	3.00	3.43	3.59	44.7	
August	..	1.98	..	1.65	1.26	1.63	1.01	1.52	.94	1.55	3.06	2.08	23.0	
September	..	2.27	..	2.73	3.09	2.76	2.58	2.69	2.42	2.08	2.47	1.94	51.0	
October	..	4.04	..	4.41	4.69	4.47	5.00	4.50	4.18	4.33	5.16	5.12	57.5	
November	..	3.26	..	4.19	4.38	3.78	3.92	3.79	3.50	3.34	4.23	5.22	57.0	
December	..	2.80	..	3.62	3.24	3.43	3.08	3.38	2.33	2.01	2.86	3.27	42.6	
Year	.	26.98	..	31.94	31.70	31.03	30.39	29.26	25.98	25.70	32.88	32.21	469.3	

RECEIPT.

A C C O U N T S.		I A M E N T S.	
Credit Balance at 30th September 1937	.	£31 6 7	Printing and Stationery—
<i>Subscriptions—</i>			Proceedings (Neil)
396 Members at 10s.	£198 0 0		£119 9 6
15 Entrance Fees at 10s.	7 10 0		(Others)
10 " " at £1	10 0 0		5 7 8
7 Arrears at 10s.	3 10 0		£124 17 2
<i>Sale of Proceedings</i>			Field Notices
<i>Sale of Club Badges</i>			21 13 6
<i>Bank Charges received</i>			£146 10 8
			Local Printing and Stationery
			3 3 5
			£149 14 1
			Rent, Light, Heating, and Cleaning
			Patterson (Bookcase)
			12 5 0
			5 0 0

Officials' Expenses and Postages—

Secretary	.	.	.	.	£23 13 10
Editing Secretary	.	.	.	0 5 0	
Treasurer	.	.	.	1 0 6	
Assistant Treasurer	.	.	.	4 6 5	
Librarian	.	.	.	2 3 9	
Clerical Expenses	.	.	.	0 4 11	
			£5 0 0		
			2 0 0		
				7 0 0	
CREDIT BALANCE	.	.	.	10 0 0	
				1 1 0	
				2 2 0	
				2 2 0	
				0 6 4	
					£221 4 10
					35 6 9
					£256 11 7
					£4 0 2
<i>Gain on year's working</i>					

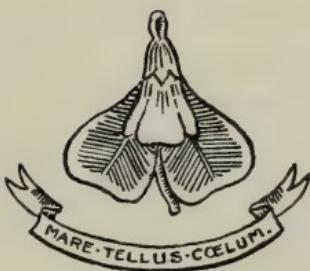
APPROXIMATE BALANCE SHEET

BALANCE SHEET.		ASSETS.
LIABILITIES.		
Neill's Estimated Account for <i>Proceedings</i>	£100 0 0	2 £80 War Savings Certificates
Approximate Balance in Club's favour at date	: 95 6 9	Amount in Bank 30th Sept. 1938, Current Account
	<hr/>	<hr/>
	£195 6 9	£160 0 0 35 6 9 <hr/> £195 6 9

4th October 1938.—I have examined the above
Pass-Book and Certificates have been exhibited to me



14 MAR 1939



THE BERWICKSHIRE NATURALISTS' CLUB RULES AND REGULATIONS.

(Founded 1831.)

BADGE : WOOD SORREL.

MOTTO : " MARE ET TELLUS, ET, QUOD TEGIT OMNIA, CÆLUM."

1. The name of the Club is The Berwickshire Naturalists' Club (1831).
2. The object of the Club is to investigate the natural history and antiquities of Berwickshire and its vicinage (1831).
3. All interested in these objects are eligible for membership (1831).
4. The Club consists of (*a*) Ordinary Members, (*b*) Contributing Libraries and Societies, (*c*) Corresponding Members, eminent men of science whom the Club desires to honour (1883), (*d*) Honorary Lady Members, and (*e*) Associate Members, non-paying members who work along with the Club (1883).
5. New members are elected at any meeting of the Club by the unanimous vote of members present, the official forms having been duly completed, and the nominations having been approved by the officials of the Club. New members are entitled to the privileges of membership upon payment of the entrance and membership fees (1922), concerning which they will be duly notified (1937). If elected in September such member is eligible to attend the Annual Meeting for the year, no fees being due before 1st January (1937). The names of new members who have not taken up membership within six months of election, and after having received three notices, will be removed from the list (1925). The Club rules and list of members at date are sent on election (1937).

6. The entrance fee is 20s. (1937), and the annual subscription 10s. (1920). These are both due on election. Subsequent subscriptions are due after the annual business meeting, and entitle members to attend the meetings and to receive a copy of the Club's *History* for the ensuing year (1925). No fees or subscriptions should be sent until requested by the Treasurer (1937).
7. The number of Ordinary Members is limited to 400. The names of candidates are brought forward in priority of application, power being reserved to the President to nominate independently in special cases, irrespective of the number of members on the Roll (1884).
8. The *History* of the Club is issued only to members who have paid their year's subscription. Names of members who are in arrears for two years will be removed from the list after due notice has been given to them (1886).
9. The Club shall hold no property (1831), except literature (1906).
10. The Office-Bearers of the Club are a President, who is nominated annually by the retiring President; a Vice-President (1932), an Organising Secretary, an Editing Secretary, a Treasurer, and a Librarian, who are elected at the annual business meeting (1925), and who shall form the Council of the Club (1931), with in addition one lady and one gentleman co-opted by the Council as members of the Council to serve for the ensuing year. They will retire at the Annual Meeting, but being eligible can offer themselves for re-election (1937).
11. Expenses incurred by the Office-Bearers are refunded. The Secretary's expenses, both in organising and attending the meetings of the Club, may be defrayed out of the funds (1909).
12. Five monthly meetings are held from May till September (1831). The annual business meeting is held in the beginning of October. Extra meetings for special purposes may be arranged (1925).
13. Notices of meetings are issued to members at least eight days in advance (1831).
14. Members may bring guests to the meetings, but the notices of meeting are not transferable (1925). Guests may only attend when accompanied by members (1937).

15. At Field Meetings no paper or other refuse may be left on the ground. All gates passed through must be left closed (1925). No dogs are allowed (1932).
16. Members omitting to book seats for meals or drives beforehand must wait till those having done so are accommodated (1925).
17. Contributors of papers to the *History* receive twenty-five overprints of their papers (1925).
18. The Secretary must be notified of any suggested change in Rules not later than the 14th of September in each year, all members having not less than ten days' notice of such (1937).

"RULE FIRST AND LAST."

"Every member must bring with him good humour, good behaviour, and a good wish to oblige. This rule cannot be broken by any member without the unanimous consent of the Club" (1849)—"Correspondence of Dr George Johnston," p. 414 (Founder and first President of the Club).

THE LIBRARY.

The Library of the Club is at 2 Bankhill, Berwick-upon-Tweed. It contains a complete set of the Club's *History*, publications of kindred Societies, and other local and scientific literature. The keys may be had from Mr John Smith, 129 High Street, Berwick-upon-Tweed, in whose premises the Club Room is situated. Such keys must be signed for at time of issue, and any Part or Parts of the Club's *History* taken out on loan must also be entered in the book kept for the purpose. Extra copies (above three) of the Club's *History* are to Members, 3s. 6d. per part up to 1920 ; to Non-members, 6s. (1906). From 1921 to 1933, to Members, 6s. ; to Non-members, 10s. (1921). From 1934 until further notice, to Members, 5s.; sister Societies and Libraries, 2s. 6d.; to Non-members, 7s. 6d. (1937). Centenary Volume and Index, 10s. (1932). Future prices to be adjusted by the Council from time to time in accordance with cost (1934). (When only one copy of year is in stock, it is not for sale.—T. M. Norman, Secy., 20/8/1906.)

THE PINK SLIP.

B.N.C., 1938.

1. Members are reminded that under Rule 16 no dogs are allowed at meetings.
2. Care should be taken that no paper or other refuse be left on the ground, and that wickets and gates be closed.
3. Smokers are requested to see that matches and cigarette ends are extinguished before throwing away, especially in woods.
4. During talks, members are asked to form a wide circle round the speaker, to enable everyone to hear.
5. When the attention of members is desired, the Secretary will sound the Horn.
6. The President's car (or car selected by the Secretary in his absence) will carry the Club Flag, and members are asked not to pass or get in front of this car, unless they are leaving the meeting.
7. Dr Johnston's "Rule First and Last"—
"Every member must bring with him good humour, good behaviour, and a good wish to oblige."

THE BERWICKSHIRE NATURALISTS' CLUB.

LIST OF MEMBERS, 30th September 1938.

Those marked with an Asterisk are Ex-Presidents.

LIFE MEMBER.

	Date of Admission.
Craw, Mrs A. M.; 5 Merchiston Gardens, Edinburgh, 10 .	1933

ORDINARY MEMBERS.

Aitchison, Mrs A. L.; Hyndsidehill, Gordon, Berwickshire .	1930
Aitchison, Mrs B. H.; 15 Frogstone Road West, Edinburgh, 10 .	1919
Aitchison, Walter de Lancey; M.A.; Killingworth Hall, Northumberland	1933
Aiton, Mrs Scott; Legerwood, Earlston	1936
Allan, John; M.A., F.S.A.; British Museum, London, W.C.1 .	1920
Allhusen, S. D.; Tuggal Grange, Chathill, Northumberland .	1934
Allhusen, Mrs K. R.; do. do. . . .	1923
Anderson, Lady; Yair, by Galashiels	1929
Anderson, Mrs Helen I.; 3 Williambank, Earlston	1923
Angus, T. C.; Rosybank, Coldstream	1933
Angus, W.; Record Office, General Register House, Edinburgh .	1910
Archer, Joseph E.; Eastacres, Alnwick	1920
Baillie, John; British Linen Bank House, Duns	1925
Baillie, Mrs Meta; Harleyburn, Melrose	1924
Ballard, G. H.; M.Sc.; 2 Bay Terrace, Berwick-upon-Tweed .	1934
Barker, Rev. Joseph Hudson; The Vicarage, Norham	1936
Bate, Mrs M. J.; Linthorpe, 31 Castle Terrace, Berwick-upon-Tweed	1938
Bell, Mrs M. L.; Northfield, St Abbs	1922
Bell, Robert B.; do. do.	1923
Bell, Rev. Wm. N.; M.A.; 37 Oakfield Avenue, Glasgow, W. 2 .	1914
Bertram, George William; 12 Corrennie Gardens, Edinburgh, 10 .	1930
Biddulph, Sir Theophilus George; Bart.; The Pavilion, Melrose .	1930
Biddulph, Lady; do. do. . . .	1926
Bishop, Mrs John; 1 Summerhill Terrace, Berwick-upon-Tweed .	1925
Black, Mrs E. A.; Adderstone House, Berwick-upon-Tweed .	1935
Blackett-Ord, Mrs; Denwick House, Alnwick	1929
Blackett-Ord, Miss M.; do. do.	1929

LIST OF MEMBERS

	Date of Admission.
Blackie, J. J.; Ph.D., A.I.C., F.C.S.; 104 Holyrood Road, Edinburgh	1935
*Blair, C. H. Hunter; M.A., F.S.A.; 57 Highbury, Newcastle upon Tyne	1918
Blair, Miss J. I. H.; Abbey Green, Jedburgh	1932
Blyth, Miss M. A.; Garden Close, Sidestrand, Cromer, Norfolk	1931
Bolam, A. C.; 58 Ravensdowne, Berwick-upon-Tweed	1934
Bolam, Miss E. S.; Tynebridge, Alston, Cumberland	1935
Bonnar, William; 51 Braid Avenue, Edinburgh	1930
Bosanquet, Mrs Ellen S.; Rock Moor, Alnwick	1934
Boxwell, Philip Reginald; Fairlaw, Reston, Berwickshire	1930
Boxwell, Mrs H. T.; do. do.	1932
Boyd, Rev. Halbert J.; Yarrowlea, Selkirk	1935
Boyd, Miss Jessie B.; Faldonside, Melrose	1905
Brackenbury, H. I.; C.B.E., J.P.; Tweedhill, Berwick-upon-Tweed	1934
Brackenbury, Mrs. W. I.; J.P.; Tweedhill, Berwick-upon-Tweed	1934
Briggs, Miss Margaret; Thornington, Mindrum	1936
Brough, John; The Parade, Berwick-upon-Tweed	1938
Brown, John; Southcote, Berwick-upon-Tweed	1925
Brownlow, Mrs W.; Swansfield House, Alnwick	1936
Bruce, Miss F.; Easter Langlee, Galashiels	1938
Buist, A. A.; Kirkbank, Roxburgh	1937
Buist, Mrs M. E.; Kirkbank, Roxburgh, Roxburghshire	1937
Cairns, Mrs J.; Chainbridge House, Horncliffe-on-Tweed	1937
Calder, Mrs Mary A. H.; Marigold, Chirnside	1923
Calder, Mrs J.; Skaithmuir, Coldstream	1937
Callen, Rev. Richard; M.A., LL.B.; The Manse, Westruther, by Gordon, Berwickshire	1935
Cameron, Miss Elizabeth W.; Trinity, Duns	1912
Cameron, Mrs M. G.; Brunton, Christon Bank, Alnwick	1930
Campbell, The Hon. Jean; Hunthill, Jedburgh	1931
Carr, Joseph Wm.; Homecroft, Horncliffe, Berwick-upon-Tweed	1926
Carr, Miss Eleanor M.; do. do.	1928
Carr, Robert; The Elms, Berwick-upon-Tweed	1890
Caverhill, Miss H. F. M.; 2 Ravensdowne, Berwick-upon-Tweed	1923
Chartres, Mrs Mary; Mindrum, Northumberland	1930
Clark, J. H.; Market Place, Rothbury	1933
Clark, Wm. Donald; West Ord, Berwick-upon-Tweed	1926
Clarke, Commander H. C. C.; R.N., D.S.O.; Clint Lodge, St Boswells	1938
Clarke, Mrs E. L. C.; Clint Lodge, St Boswells	1938
Clay, A. Thomson; W.S.; 18 South Learmonth Gardens, Edinburgh	1930
Clendinnen, Miss I. J.; B.A.; Oaklands, Kelso	1925
Clelland, Miss Amy Fenwicke; Dunstan House, Alnwick	1925
Clelland, Miss C. M. Fenwicke; Glanton, Northumberland	1925
Cockburn, J. W.; Whiteburn, Grantshouse	1925

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Date of
Admission.

Coetlogon, Mrs Jane de; Embleton, Alnwick	1933
Collingwood, John C.; Cornhill House, Cornhill-on-Tweed	1902
Cookson, Harold; Renton House, Grantshouse	1930
Cowan, Mrs Allister; Eastfield, Bowden, St Boswells	1929
Cowan, Henry Hargrave; The Roan, Lauder	1931
Cowan, Mrs Janet Eman; do. do.	1931
Cowan, Mrs Jane E. F.; Lowriewell Cottage, Yetholm, by Kelso	1915
Cowe, Robert Crowe; Butterdean, Grantshouse	1920
Craigmyle, The Lady; 20 Lowndes Square, London, S.W. 1	1934
Craigs, Robert; Reservoir Cottage, Catcleugh, Otterburn, Newcastle-on-Tyne	1925
Craster, Miss Mary H.; Tuggal Grange, Chathill	1935
Craw, H. A.; 5 Merchiston Gardens, Edinburgh, 10	1933
Cresswell, Mrs; Hauxley Hall, Amble, Northumberland	1923
Croal, Mrs; Thornton, Berwick-upon-Tweed	1928
Crockett, Rev. W. S.; D.D.; The Manse, Tweedsmuir, by Biggar	1916
Crockett, Mrs W. S.; do. do.	1936
Curle, F. R. N.; Greenyards, Melrose	1904
*Curle, James; LL.D., F.S.A.; St Cuthberts, Melrose	1893
Danford, Miss A. B.; Hawthornden, St Boswells	1931
Darling, Adam D.; The Friars, Bamburgh	1923
Darling, Alex.; Governor's House, Berwick-upon-Tweed	1900
Darling, R. Stormonth; W.S.; Rosebank, Kelso	1936
Davidson, Mrs M.; Kildonan, Yetholm, Kelso	1929
Davidson, Mrs William; Mansefield, Kelso	1937
Davison, Will. B.; 8 Burdon Terrace, Newcastle upon Tyne	1934
Deans, John H.; Pitcox, Dunbar	1923
Dey, Alex.; M.B., C.M.; Millvale, Wooler	1909
Dickinson, Mrs A. H.; Adderburns, near Chirnside, Berwickshire	1933
Dickson, Miss A.; Woodhouse, Dunscore, Dumfriesshire	1938
Dickson, A. H. D.; C.A.; 15 Woodlands Terrace, Glasgow	1925
Dickson, Mrs Marjorie B.; 7 Doune Terrace, Edinburgh, 3	1929
Dickson, W. S.; 3 Circus Gardens, Edinburgh, 3	1933
Dobbie, Mrs I.; Caldra, Duns, Berwickshire	1934
Dodds, Ralph Herbert; M.C., F.G.I.; Avenue House, Berwick-upon-Tweed	1903
Douglas, Rev. J. L.; Manse of Eccles, Greenlaw	1928
Douglas, Wm. Sholto; Mainhouse, Kelso	1922
Douglas, Mrs W. S.; do. do.	1925
Duncan, John Bishop; 6 Summerhill Terrace, Berwick-upon-Tweed	1923
Dunlop, Mrs Clementina; Whitmuir, Selkirk	1933
Eardley-Wilmot, Mrs; 24 Thurloe Square, London, S.W. 7	1938
Easton, Miss Anne E.; Hollybank, Gattonside, Melrose	1931
Easton, Wm. R.; Summerside, Jedburgh	1923
Elliot, Miss Euphemia Moffat; Balnakiel, Galashiels	1930

LIST OF MEMBERS

	Date of Admission.
Elliot, Miss G. A.; Birgham, Coldstream	1936
Elliot, Wm. Marshall; High Street, Coldstream	1909
Elliot, W. R.; Birgham, Coldstream	1936
Erskine, Mrs Margaret C.; The Anchorage, Melrose	1907
*Evans, A. H.; Sc.D., F.Z.S.; Cheviot House, Crowthorne, Berks	1875
 Fairfax, Miss F. Ramsay; Ruletownhead, by Hawick	1931
Falconer, Mrs Agnes W.; Auchencrow Mains, Reston	1925
Falconer, Allan A.; Elder Bank, Duns	1921
Ferguson, Miss J. J.; Ellem Cottage, Duns	1937
Fleming, Mrs; British Linen Bank House, Berwick-upon-Tweed	1926
Forster, C. P.; M.A.; 1 Quay Walls, Berwick-upon-Tweed	1934
Fraser, Rev. D. D.; M.A.; The Manse, Sprouston, Roxburghshire	1922
Fraser, William; 212 Causewayside, Edinburgh	1928
Furness, Sir Christopher; Bart.; Netherbyres, Ayton, Berwickshire	1932
 Garden, Miss Margaret; 9 North Terrace, Berwick-upon-Tweed	1928
Gibb, Miss Margaret L. Shirra; 253 Dalkeith Road, Edinburgh	1921
Gilchrist, Captain W. H.; 6 Churchill, Edinburgh, 10	1938
Glegg, Andrew H.; W.S.; Maines, Chirnside	1924
Glegg, Mrs Jessie; do. do.	1928
Glossop, C. W. H.; Bramwith Hall, near Doncaster	1937
Gooderham, Rev. H. B.; The Rectory, North Berwick	1934
Gray, Miss Mary; 7 Marygate, Berwick-upon-Tweed	1923
Gray, Miss Mary; 4 Bankhill, Berwick-upon-Tweed	1925
Greet, Miss Constance H.; J.P.; New Haggerston, Beal	1907
Grieve, Miss Jessie C.; Anchorage, Lauder	1924
Gunn, Rev. Peter B.; The Manse, Roxburgh	1923
 Haggerston, Sir Carnaby De Marie; Bart.; Ellingham Hall, Chathill, Northumberland	1937
Halliburton, T. Colledge; Brae Villa, Jedburgh	1920
Harrison, Mrs B.; Levenlea, Selkirk	1937
Hastie, Alex.; Ravelston, Chirnside	1937
Hay, Mrs; Duns Castle, Duns	1902
Hayward, Miss Ida M.; F.L.S.; 7 Abbotsford Road, Galashiels	1924
Henderson, J. D.; Middleton, Belford, Northumberland	1937
Henderson, T. S.; Brig House, Kelso	1936
Herbert, H. B.; M.A.; The Cottage, Fallodon, Christon Bank, Alnwick	1921
Herriot, Miss Jean M.; West Croft, East Ord, Berwick-upon-Tweed	1926
Hilson, Oliver; J.P.; Liberal Club, Galashiels	1894
Hodgkin, Mrs Catherine; Old Ridley, Stocksfield	1923
Hogarth, George Burn; Foulden Hill, Berwick-upon-Tweed	1931
Hogarth, George Gilroy; Commercial Bank, Ayton	1922
Hogg, John; Roselea, Kelso	1925

LIST OF MEMBERS

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	Date of Admission.
Holderness-Roddam, Mrs Helen M. G.; Roddam Hall, Wooperton, Northumberland	1926
Holmes, Miss Janet M'Callum; Bridge Street, Berwick-upon-Tweed	1925
Home, The Rt. Hon. The Earl of; The Hirsel, Coldstream	1915
Home, George; The Links, St Giles Hill, Winchester	1929
Home, Miss H. M. Logan; Silverwells, Coldingham, Berwickshire	1927
*Home, Sir John Hepburn Milne; Irvine House, Canonbie, Dumfriesshire	1898
Home, Lady Milne; Irvine House, Canonbie, Dumfriesshire	1930
Home, Miss Sydney Milne; The Cottage, Paxton, Berwick-upon-Tweed	1924
Home, Lt.-Col. William M. Logan; Edrom House, Edrom	1936
Hood, James; Linhead, Cockburnspath	1932
Hood, T.; Linhead, Cockburnspath	1937
Hope, Miss Mary Isobel; Beechwood, Selkirk	1913
Hope, Wm. Weston; Braehead, St Boswells	1931
Hope, Mrs M. D.; do. do.	1931
Hornby, C. W.; 35 Northumberland Road, Tweedmouth, Berwick-upon-Tweed	1933
Howson, Charles; Lumley Thicks, Fence Houses, Co. Durham	1937
Howson, Mrs; do. do.	1937
Hull, Rev. J. E.; Belford Vicarage, Northumberland	1931
Hunter, Edward; Wentworth, Gosforth, Newcastle upon Tyne	1907
Hunter, Mrs; Anton's Hill, Coldstream	1924
James, Captain F.; Beech Grove, Ascot, Berks	1901
Jardine, Mrs A. S. H.; Chesterknowes, by Selkirk	1933
Jardine, Miss E. H.; Boldon Lodge, East Boldon, Co. Durham	1923
Jeffrey, Mrs D. M.; Ovenscloss, Galashiels, Selkirkshire	1935
Johnson, Miss E. G.; 7 Marygate, Berwick-upon-Tweed	1937
Johnson, Miss Eva E. R.; M.A.; 7 Marygate, Berwick-upon-Tweed	1937
Johnson, John Bolam; C.A.; 13 York Place, Edinburgh	1918
Johnston, Robert G.; O.B.E.; Solicitor; Duns	1907
Keenlyside, Ronald; 10 Bondgate Without, Alnwick	1933
Kelly, Henry; Bellshill, Belford, Northumberland	1937
Kelly, Mrs Maud; do. do.	1937
Lake, John Romans; East Ord, Berwick	1925
Leadbetter, James G. Greenshields; Spital Tower, Denholm	1931
Leadbetter, Mrs E. M. G.; Knowesouth, Jedburgh	1932
Leadbetter, Miss S.; do. do.	1937
*Leather, Colonel G. F. T.; F.R.G.S.; Middleton Hall, Belford	1889
Leather, Mrs Margaret Ethel; do. do.	1919
Leather, Miss R. M.; Moorswood Cottage, Herons Ghyll, Uckfield, Sussex	1920

LIST OF MEMBERS

		Date of Admission.
Lewis, Miss Mary Annie ; High Street, Ayton		1925
Lillington, Com. H. W. L.; R.N.; Horncliffe House, Berwick-upon-Tweed		1925
Lindsay Mrs; Arrabury, Ayton		1924
Little, Mrs Nora ; Crotchet Knowe, Galashiels		1923
Little, Mrs ; Mousen Hall, Belford		1929
Loch, Colonel J. Carysfort; C.B.E.; House of Narrow Gates, St Boswells		1936
Lockton, Rev. P. S.; Leabrade, Melrose		1913
Logan, Mrs James ; Birkhill, Earlston		1922
Low, Miss K. M.; Bridgeland, Selkirk		1935
Lyall, Miss M. M.; Old Greenlaw, Greenlaw, Berwickshire		1935
Lyal, Mrs Robert ; West Mains, Gordon		1925
Lynch-Staunton, Mrs H. G.; Cawderstanes, Berwick-upon-Tweed		1937
Mabon, John Thos. ; 48 Castlegate, Jedburgh		1923
Mabon, Wm. Wells ; Crown Lane House, Jedburgh		1920
Macalister, Rev. R. H.; St James Manse, Yetholm, Kelso		1931
Macalister, Mrs Isabel ; do. do.		1931
Maclare, Mrs M.; Fordel, Melrose		1932
M'Callum, Rev. Wm. ; M.A.; The Manse, Makerstoun, Kelso		1917
M'Conachie, Mrs Ellen M.; Cottesbrooke, Lauder		1922
M'Cracken, Dr J. S.; South View, Ormiston Terrace, Melrose		1929
M'Creadh, Rev. J. F.; M.A.; The Manse, Mertoun, St Boswells		1923
M'Creadh, Mrs ; do. do.		1923
McCreath, Mrs H. R.; Gainslaw House, Berwick-upon-Tweed		1928
M'Donald, Dr D. T.; South Bank, Belford, Northumberland		1937
M'Dougal, Capt. Arthur R. ; Blythe, Lauder		1920
M'Ewen, Mrs B.; Marchmont, Greenlaw		1936
*M'Ewen, Capt. John Helias F.; M.P.; Marchmont, Greenlaw		1931
M'Keachie, Rev. Alfred ; M.A.; The Manse, Chirnside		1923
M'Whir, Mrs M. H.; 7 Albert Terrace, Edinburgh, 10		1938
Maddan, James G.; Aldon House, West Malling, Kent		1922
Maling, Mrs Hilda Margaretta ; Twizell House, Belford		1930
Marr, James ; M.B., C.M.; Ivy Lodge, Greenlaw		1898
Marshall, Wm. James ; Northumberland Avenue, Berwick-upon-Tweed		1904
Martin, Charles Picton ; Broomehouse, Duns		1925
Martin, Mrs; do. do.		1925
Martin, George ; 1 Northumberland Ave., Berwick-upon-Tweed		1930
Martin, Miss K. A.; Ord Hill, Berwick-upon-Tweed		1921
Martin, Mrs M. ; Friars Hall, Melrose		1929
Meikle, John ; Langrigg, Whitsome, Chirnside		1925
Menzies, Lieut.-Col. Chas. T. ; Kames, Greenlaw		1905
Menzies, William ; Mayfield, Melrose		1931
Middlemas, Robert ; Barndale House, Alnwick		1898
Middlemas, Mrs Catherine ; do. do.		1928

LIST OF MEMBERS

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	Date of Admission.
Middlemas, R. J.; M.A.; Prudhoe Croft, Alnwick	1928
Milburne, Sir Leonard J.; Bart.; Guyzance, Acklington	1927
Mills, Fred; Mayfield, Haddington	1916
Mills, George H.; Buxley, Duns	1924
Minchin, Mrs K. W.; c/o Col. Molesworth; C.I.E., C.B.E., I.M.S.; Cruicksfield, Duns, Berwickshire	1938
Mitchell, Miss Alice; Chiefswood, Melrose	1933
Mitchell, Major C.; C.B.E., D.S.O.; Pallinsburn, Cornhill-upon-Tweed	1938
Mitchell, Mrs C.; Pallinsburn, Cornhill-upon-Tweed	1938
Molesworth, Col. Wm.; C.I.E., C.B.E., I.M.S.; Cruicksfield, Duns	1923
Molesworth, Mrs Winifred Ann; do. do.	1923
Muir, Mrs Alice C.; Ettrickshaws, Selkirk	1934
Muir, Mrs E. M. Temple; Inchdarnie, St Boswells, Roxburghshire	1923
*Muir, Dr John Stewart; Thorncroft, Selkirk	1925
Muir, Miss Margaret; Ettrickshaws, Selkirk	1937
Napier, G. G.; M.A.; Strathairly, 22 Braidburn Terrace, Edinburgh, 10	1901
Neilson, W. K.; Lintalee, Jedburgh	1933
Neilson, Mrs; do. do.	1933
Newbigin, E. R.; J.P.; 4 Tankerville Terrace, Newcastle upon Tyne	1928
Newton, Miss Mary J.; 3 Williambank, Earlston	1913
Ogg, James E.; Cockburnspath	1921
Oliver, Mrs Katharine; Edgerston, Jedburgh	1924
Otto, Miss Jane Margaret; Grey Crook, St Boswells	1931
Pape, Miss D. C.; Grindon Corner, Norham-on-Tweed	1933
Pape, Mrs E. M.; do. do.	1937
Parker, Frederick; 12 Castle Terrace, Berwick-upon-Tweed	1936
Pate, Mrs; Horseupcleugh, Longformacus	1928
Paterson, James; Castlegate, Berwick-upon-Tweed	1927
*Paton, Rev. Henry; M.A.; Inchewan, Peebles	1897
Pearson, Mrs; Otterburn, Kelso	1921
Peters, H.; Solicitor; Berwick-upon-Tweed	1938
Petrie, Charles Strachan; Solicitor; Duns	1920
Piddocke, Rev. M. M.; Kirknewton Vicarage, Northumberland	1912
Playfair, Mrs M. J.; Wester Park, Coldstream	1936
*Plummer, Major Charles H. Scott; Sunderland Hall, Galashiels	1892
Plummer, Mrs Scott; do. do.	1928
Pool, G. D.; Underwood, Beechfield Road, Gosforth, Newcastle upon Tyne	1937
Porteous, Andrew Mather, Jun.; Easterhill, Coldstream	1923
Prentice, Mrs B. J.; Tweedsyde, Berwick-upon-Tweed	1937

LIST OF MEMBERS

	Date of Admission.
Pringle, Mrs; Torwoodlee, Galashiels	1932
Purves, Thomas ; 18 Castle Terrace, Berwick-upon-Tweed	1923
Ramsay, Douglas Monro ; Bowland, by Galashiels	1931
Ramsay, Miss E. Lucy ; Stainrigg, Coldstream	1923
Rea, Alexander; The Hollies, Horncliffe, Berwick-upon-Tweed	1936
Rea, Mrs L.; Berrington, Ancroft, Berwick-upon-Tweed	1932
Renton, Miss Agnes F.; Linthorpe, Castle Terrace, Berwick-upon Tweed	1936
Renton, Miss Mima; Linthorpe, Castle Terrace, Berwick-upon-Tweed	1936
Riddell, Mrs E. E. ; Sanson Seal, Berwick-upon-Tweed	1929
Ritch, D. T.; British Linen Bank, North Berwick	1936
Ritchie, Mrs Ishbel Juliet ; The Holmes, St Boswells	1926
Ritchie, Rev. John ; B.D. ; The Manse, Gordon, Berwickshire	1916
Roberts, Mrs Agnes A. ; Wellwood, Selkirk	1928
Robertson, Rev. John ; M.A. ; West Manse, Lauder	1924
Robertson, Wm. ; Stamford, Alnwick	1923
Robson, Col. The Hon. H. B. ; Pinewood Hill, Witley, Surrey	1926
Robson, Mrs; Seacraig, St Aidans, Seahouses	1932
Robson-Scott, Miss Marjorie ; Newton, Jedburgh	1918
Rodger, David ; Muircleugh, Lauder	1920
Romanes, C. J. L. ; W.S. ; Norham Lodge, Station Road, Duns	1908
Rose, Rev. Wm. D. O. ; M.A. ; The Manse, Tullibody, Alloa	1921
Ross, Stewart ; 1 Thistle Court, Edinburgh, 2	1924
Runciman, Miss E. ; Eastmains, Lauder, Berwickshire	1937
Runciman, Viscountess; Doxford, Chathill, Northumberland	1934
Russell, G. A. ; The Crooks, Coldstream	1923
Rutherford, Mrs C. H.; Woodburn, Galashiels	1937
Rutherford, W. ; Boleside House, Galashiels	1933
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Shed, A. R.; Elmbank, Ayton	1935
Shed, Mrs Anna; do. do.	1935
Shelford, Mrs P. W. ; The Duke's School, Alnwick	1930

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	Date of Admission.
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Short, Thomas B.; Warenlee, Belford, Northumberland	1888
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Steele, Mrs E.; do. do.	1937
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Steven, Alex. Cockburn Allison; "St Duthus," Berwick-upon-Tweed	1924
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Stevenson, Miss Sheila; do. do.	1925
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Stoddart, Miss A. Y.; Kirklands, Melrose	1933
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Tait, T. M'Gregor; 45 Woolmarket, Berwick-upon-Tweed	1923
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HISTORY

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BERWICKSHIRE NATURALISTS' CLUB

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PROCEEDINGS
OF THE
BERWICKSHIRE NATURALISTS' CLUB

LIFE IN NEW ZEALAND.

*Address to the Berwickshire Naturalists' Club,
October 1939.*

LADIES AND GENTLEMEN,

I HAVE to thank you first of all for the honour I have enjoyed in being your President for the past year, and for the kindness with which you have treated my shortcomings. I have also to thank sincerely the members of the Council for their unvarying helpfulness.

More especially I wish to express my thanks to Miss Hope, our indefatigable Secretary, for the help she has given me, and for the very efficient way in which she has organised the Meetings of the Club for the twelve years in which she held office. It is with the most sincere regret that we have to accept her resignation on account of her having to leave the Border Country. She will be sadly missed by all the members of the Club. The sound of her trumpet calling the members together, or occasionally for silence, will be sorrowfully missed. She will go to her new home with the best wishes from all the Berwickshire Naturalists that she may enjoy many years of happy and useful

life. We hope that she will be able sometimes to come and see us, and take part in some of the Club expeditions.

At the same time we are glad to know that Mr Cowan has very kindly consented to become Secretary for the Club. I am sure that he will be a very efficient Secretary, and we give him a hearty welcome.

The meetings of the Club during the summer have generally been held in fine weather and have been well attended and successful until that arranged for 7th September at Elsdon. The outbreak of war on 3rd September made it necessary to cancel the two remaining meetings, that at Elsdon and the Annual Meeting at Berwick on 4th October.

The meetings of the Sections, arranged for the first time this year, have been fairly encouraging. The attendance at those for Botany, with Mr Brown as leader, increased in the later meetings. On one occasion, when Dr Hull acted as leader, the rare coral-rooted orchis was found on Ross Links.

The Ornithology Section was attended by more members than any of the others. The leaders for this section were Mrs Swinton and Mr Sanderson, both keen bird-watchers, whose help to less knowledgeable members was much appreciated.

The Entomological Section, whose leader is Mr H. B. Herbert, was not well attended. It has been suggested that the meetings of the Botanists and Entomologists might be combined on the same days.

The Geological Section, with Mr Carr as leader, had two very interesting meetings, the first poorly and the later one moderately attended. The meeting at Cockburnspath, under the very efficient leadership of Mr Taylor, was attended by very few members.

I am sure that we are all very grateful to the lady and gentlemen who acted as Section Leaders for the different branches of Natural Science. They were all most

considerate and helpful to the members who attended, more as learners than specialists. I think that if the Section leaders are willing to take charge of Sections again, it would be an advantage to the Club that they should go on.

Now the time has come for me to pass on the Presidency of the Club to my successor, Mr Swinton. He is taking office when our country is at war and mankind in a turmoil, but Nature goes on with her work without noticing the doings of man. Please God, the war will not last very long, and in happier days our new President will lead the Club to see the peaceful countryside of the Border.

My Presidential Address cannot take the form of a scientific discourse on any particular branch of Natural Science, because I have never made a special study of any, either in Natural History or Antiquity. The Club was founded "To investigate the Natural History and Antiquities of Berwickshire and its vicinage." However, the motto of the Club "Mare et Tellus, et, quod legit omnia, Caelum" suggests that it is allowable to discourse on subjects further afield. So I intend to make my talk take the form of a rough outline of Nature as it is found in the most distant Dominion.

New Zealand is sometimes called the Britain of the South, and it has many resemblances. It has also some features which are not found in any other part of the world. It is sometimes thought of as an island off the coast of Australia; this is only correct in a very small degree. The shortest distance between the two is about twelve hundred miles, and the animal and vegetable life is quite different in the two countries. For thirty years I lived and worked in New Zealand. All that time I lived close to Nature and on the fringe of white settlement, and have seen much of the native flora and fauna destroyed to give place to the imported kind which naturally

followed the settlers, as they made what we call a wilderness bear produce for the use of European civilisation. Therefore I intend to give a short account of some of the native birds and flora that have sadly diminished in numbers since the white settlers first came to make their homes in New Zealand. The latitude of New Zealand covers in the Southern Hemisphere roughly the same degrees as are situated between Northern Africa and Southern England, so that the climate is mild, and having no continental land within a thousand miles it never experiences any extremes of heat or cold. For long geological ages New Zealand has never been connected with any of the great land masses of the world. It is supposed that at one time it was joined northward to Fiji, New Caledonia and New Guinea, but this was before mammals overspread the earth. This accounts for the fact that there are no land mammals which are aboriginal to the country, except two kinds of bat. There is a black rat found in the bush and called the native rat, but it is said to have been introduced accidentally by the Maoris when they came to New Zealand in canoes about 500 years ago.

There are no snakes, nor toads, and only one kind of native frog. There are several kinds of lizard, none more than a few inches long. The so-called Tuatara lizard is not a true lizard, as in structure it resembles the crocodile, and the ribs have bird-like characteristics. It is about 18 inches long with a ruff running along the back, and often shares the nesting burrow of a mutton bird. This seemingly odd arrangement works quite happily. The Tuatara does not disturb the bird on its nest, and the rubbish left by the bird near the burrow attracts flies which supply food for the Tuatara. I believe that the Tuatara is quite extinct on the mainland now, but is still found on small islands lying off shore.

Birds formed the main animal population in primitive New Zealand, but their numbers have been tragically reduced as their natural home—the bush—has been destroyed to make place for pasture. When the Maoris first landed about 500 years ago the gigantic Moa was still living. The Maoris probably found it an easy prey, and it was already extinct when the first white man landed in New Zealand. Well-preserved bones and even feathers have been found in caves and dredged up from river-beds.

In general the native birds have not brilliantly coloured plumage, but there are exceptions. One is the common Bush Pigeon, which is a good deal larger than a cushat; his head and neck are bright green, back dark purple and greenish, the underparts white, and legs and beak bright red. They cannot live away from the bush as their food consists of wild berries which grow on the native trees and young green leaves of trees. Unfortunately for them they were unsuspicuous of man, and their flesh is very good to eat. The Maoris, before the coming of the white man, used to catch all they needed by using a long spear, pointed with the barbed sting that grows on the tail of a sting-ray. This spear was not thrown, which would be difficult in the dense bush, but was gently pushed towards the victim, then a sudden thrust and the pigeon was impaled. With the coming of the white settler the real slaughter began. Knowing the favourite trees where the pigeons came to feed, a man with a gun could get all he wanted in a very short time. Unfortunately they could also be sold if there was a settlement near or even be sent some distance to a town. Before the pigeons could be exterminated the Government brought in laws to protect them: first, that they must not be sold, and later that they must not be shot at all. So where there is bush there are still pigeons, but very few compared to the old days.

The most widely known bird of New Zealand is the Kiwi or Apteryx. His portrait has been on postage stamps, and used for trade-names. He is a queer nocturnal bird, with brownish hair-like feathers and a long straight beak, strong thick legs and of course no wings. Instead of wings there are two small stumps about as thick as a lead pencil, with a little claw on the end; these are quite invisible under the feathers. A peculiarity about the beak is that the nostrils are at the tip; this may help him to smell out his food, which consists of worms found in soft earth. At night his long whistling cry is quite unmistakable and is seldom heard during the day, which he spends hiding in a hole at the foot of a tree or under a fallen log. The nest is made in a hole under the roots of a large tree and usually there is only one egg, which is white. Though the Kiwi is only about the size of a domestic fowl, the egg is very much larger than a hen's egg and in weight is nearly a quarter that of an adult bird. Another peculiarity is that the male sits on the egg during incubation, and the female brings him food while he is sitting. A few days after the young bird is hatched it can look after itself, and the parents seem to take no further interest. The clearing away of forest has destroyed the home of the Kiwi, and weasels, cats and dogs have helped to reduce the numbers of these and other flightless birds, but they are still to be found where there are large areas of bush and in gulleys where the native growth remains. They are very helpless against attack from their imported enemies, but they do try to put up a fight when disturbed. With his back against a tree, and standing on one leg, the Kiwi strikes with the other and his beak at the attacker, but the odds are too great against him.

A very different bird to the shy, nocturnal, modest-coloured Kiwi is the Pukeko or Swamp Hen. With his black head with bright red beak and eyes, breast of

indigo blue and legs of pale red, and white tail which is constantly flirted, he is something of a dandy amongst birds. Also the young are tended by their parents till nearly full grown. Sometimes they may be seen playing a kind of game, chasing each other in and out among the rushes with outstretched wings, ending with a wild rush and loud screeching.

New Zealand is separated from the nearest land by hundreds of miles of sea, but migratory birds still come regularly from the North. It is another example of the mysterious instinct by which birds migrate over huge distances, following, we suppose, a route used by their ancestors when there was more land showing above water.

Two kinds of cuckoos come each spring from the tropical islands of the Pacific where they pass the winter. One is the Shining Cuckoo, called by the Maoris *Pipiwharauou*, which arrives in September, and when the Maoris hear its call they say that it is time to plant their kumaras (sweet potatoes). The cry is not "cuckoo," but is liquid and sweet and sounds rather like "kui, kui, kui, ti-oo, ti-oo." The colour of the head, neck and back is bright bronze-green and the breast is barred with white and light brown. It is a shy bird and more often heard than seen. The egg is laid in the nest of a smaller bird, usually a *Riro-riro* (Bush Warbler) or a White Head, whose smaller youngsters are pushed out of the nest by the young cuckoo in the same way as in Britain. The other cuckoo is called by the Maoris *Koheperoa* and by the white settlers the Long-tailed Cuckoo. Its cry is a long shrill whistle, and is usually heard in the evening. The colouring is not so bright as the Shining Cuckoo.

There are migrants that come to New Zealand from much farther away than the cuckoos. They are wading-birds similar to those found on the British coasts.

Gannets, Turnstones and Knots which have nested in Siberia and Alaska come thousands of miles to feed on the mud- or sand-flats during the summer months, which are of course winter on their nesting grounds. Godwits used to be caught in nets by the Maoris in the early days. The nets were hung from stakes driven into the mud-flats at low tide. In autumn great flocks of Godwits gather near the North Cape before setting out on their tremendous flight back to their nesting grounds. There is a legend that it was the Godwits that guided the Maoris to New Zealand from islands farther north. Flocks of birds flew over the islands at regular intervals going south or returning north, so the ancestors of the Maoris knew that land lay to the south and set out in their great double canoes to find it.

To give even a short account of all the birds of bush and mountain in New Zealand would need a whole book and go far beyond the short sketch which this paper may give. There are the honey-eating Tui and Bell Bird with notes as sweet as a flute, the dainty and fascinating Fan-tail that never rests for a moment from darting after flies, Kakas, the brown parrots that fly screaming overhead at daybreak, and the outlawed Kea parrot of the Southern Alps that is said to have acquired such a taste for the kidney fat of sheep that it will attack and kill living sheep to get it. This is doubted by some observers, but the Kea has a price on his head and is shot by the sheep-owners of the South. Many more birds might be mentioned if one had space.

Very many of the small birds of Britain have been imported and flourish in the settled parts of the country, but there is no need to go into that subject. Many of the sea-birds on the New Zealand coast are very similar to those found here. There are several colonies of Gannets, which in flight, habits and appearance are indistinguishable from those which nest on the Bass

Rock. The Black-backed Gull is also practically the same as that on the British coast. Terns, too, nest and bring up their young on outlying islets, feeding on small fry just as they do here. There is a very pretty little gull that is seen in large numbers in all the harbours of New Zealand. It is about the size of our Black-headed Gull, its back is pearl grey and both feet and bill bright red. It is very tame and friendly and always ready to be fed with scraps that may be thrown to it.

A bird that nests in huge numbers on the New Zealand coasts is the Mutton Bird (*Puffinus Griseus*). It is about the size of the Fulmar Petrel, but is of a sooty brown colour. The nest is in burrows in loose earthy banks. The young were used as food by the early settlers, and are still so used by the Maoris. When used for food the young are taken while still covered with down. At this stage they are very fat, and when split, salted and smoked are not unpalatable.

There are several varieties of Penguin that nest round the coast. The commonest is the Small Blue Penguin, which is about 16 inches in total length and coloured slaty blue on the back with white below. Of course no penguins can fly; their wings are covered with feathers so small as to be almost like scales. When swimming under water, the wings are used to propel them and the feet are stretched out behind. They have a mournful cry that sounds rather like the wailing of an infant.

Probably the most widely known of sea-birds which nest in New Zealand is the Wandering Albatross. It nests on the smaller islands and at the southern end of the South Island. The young birds take four years to reach maturity. When full grown they measure 10 feet to 12 feet across the wings. The wonderful effortless flight of this great bird is the admiration of all who have seen it. They are found all round the Southern Ocean,

but do not come north of the tropics. There are many more kinds of sea-birds round the coast, such as Cormorants, Shags, Petrels and Gulls, each of which have several varieties, but I have no room in this paper to mention them all. Also it might bore the members of the Club to have such a catalogue.

Though land mammals were only represented by two kinds of bat, the sea mammals were plentiful. There were large colonies of the Fur Seal, but they have been so ruthlessly hunted that only a few are now found on outlying islands of the South. The Sea Lion, Sea Leopard and Sea Elephant are still fairly numerous on the Auckland Islands to the south of New Zealand. Whales of different kinds were plentiful in early days, but having been hunted for more than 100 years by whalers from all over the world there are not very many left. There are still shore whaling-stations on the coast, and their hunting vessels take toll of the whales as they migrate, going north in autumn and returning to the south in spring.

The fishes round the coast are generally more brightly coloured than those of the North Sea and deeper vertically in comparison to their width. The Grey Mullet, Flounder and John Dory are the only fish I can think of that are very similar to those of the same name in the North Sea. Sea-fishes certainly abound all round the coast; often on a morning of flat calm shoals of them covering acres in extent can be seen feeding on some minute organism floating on the surface.

For many years the Government and Acclimatisation Societies have been trying to introduce the salmon. Ova have been brought from this country and from the Pacific coast of America. Year after year the fry were hatched and liberated in different rivers of both Islands. It is only about five years ago that the first run of salmon was seen in at least two of the rivers of the South

Island. They were Quinnat salmon introduced from America. I have just heard that Atlantic salmon have been caught in a New Zealand river.

The native fish of the rivers consisted of a small "native trout" which is not a true trout, and eels. Even in swift-flowing stony rivers the eels grow very large, often weighing 12 lbs. and more. They no doubt accounted for many of the salmon and trout fry that were released. In spite of the eels, the Brown and Rainbow Trout have flourished so well that the fishing in New Zealand is claimed to be the best in the world. Brown Trout up to 8 lbs. and over are often caught.

The flowers of New Zealand in the days before so many were introduced from oversea were mostly found on trees and shrubs. The dense growth of ferns and low-growing scrub discouraged the growth of low-growing flowering plants. Some of the shrubs have quite showy flowers, such as the scarlet Ngutu-Kaka (New Zealand pea) and Kowhai with its golden flower. The most splendid display of flowering tree is on the Ratu and Pohutukawa; these are both a variety of myrtle. The flowers are scarlet and cover these often huge trees about midsummer. The Pohutukawa grows usually on the coast and often quite close to the water's edge. A grove in full flower overhanging white sand and blue sea makes a lovely sight.

The Ratu, though similar in foliage and flower to the Pohutukawa, is a forest tree with a rather curious life-history. The seed, which is very small, is blown into the fork of another tree and germinates there. The stem of the seedling goes upwards, and a root-like growth crawls down the trunk of the host absorbing nourishment from the bark as it goes and eventually reaches the ground. As the growth comes down towards earth, small side-shoots are put out which eventually grow right round the host and grip it tightly. Gradu-

ally the host dies and the Ratu closes all round it. Having absorbed his host, the Ratu often becomes one of the largest of the forest trees.

The original "bush" of New Zealand consisted of some tracts of swamp covered with Raupo (a kind of bulrush) and New Zealand Flax. More open country covered with fern, similar to bracken but with a harsher leaf and edible rhizome, and Manuka and Tutu scrub. Manuka is an aromatic shrub with flower rather like hawthorn; Tutu has an insignificant flower and the young juicy shoots are poisonous to live-stock. There were also great tracts of forest, with ferns, fern trees and Nikau Palms mixed with the forest trees. The trees are mostly broad-leaved, evergreen, and of many varieties peculiar to New Zealand. There are also pine trees growing in the mixed forest. These pines are different from any that grow in the Northern Hemisphere; none of them have the long needles found on many of the Northern pines. The Kauri is perhaps the best known outside New Zealand, though it grows only in the northern half of the North Island, and is now becoming scarce as the demand for its beautiful knotless timber has been so great. It does not grow so tall as some of the pines of the North, but a trunk of over 10 feet in diameter and 60 feet to the lowest branch is not unusual.

Beneath the trees (except in Kauri bush where the ground is often fairly clear) the undergrowth is so thick that often a man cannot get through without cutting a track. Vines and creepers grow up the trees and lace the tops together so that the sky can seldom be seen. Hundreds of square miles of this bush and forest have fallen by the axe and fire of the white settler, and in its place the land is covered with grass that feeds his flocks and herds.

Though one can now admire a green land, flowing

with milk and honey, it is not without a twinge of regret for the beautiful trees and the many birds that made their home among them for thousands of years before the coming of the Pakeha, as the Maoris call Europeans.

Reports of Meetings for the Year 1939.

THE first meeting of the year 1939 was held on Thursday, 25th May.

The lovely weather and warm sunshine brought 130 members and friends to meet the President, Mr Scott Allhusen, in Selkirk market-place. Moving down the West Port, the Green, and across the river Ettrick, the long string of over 50 cars took some time to park in the yard at Linglee farm. Members then crossed the road and entered the Linglee Glen, where a short and informative talk on the Catrail was given by Mr W. D. Richie, who described the line taken by this interesting prehistoric ditch or road-track as running from Galashiels to Peel Fell. Members then continued up the glen and over the shoulder of the Peat Law to see a fine stretch of the Catrail which the passing of 2000 years has left still clearly marked on the hillside. The wonderful view was also greatly enjoyed.

A return to the cars was then made, and after an interval for lunch members then drove by way of Gair Bridge which crosses the Tweed to Rink farm where another stretch of the Catrail—preserved in a wood—was inspected. Cars then went on by the old road to Galashiels and over to Torwoodlee farm, when after a walk of about a mile Torwoodlee Broch was reached. Here Mr Halbert Boyd described the Broch and the Pictish people by whom it was built, their customs, dress and beliefs, making them live before the eyes of his hearers through his vivid imagination and graphic powers of description.

Forty members and friends joined the President at tea in Clovenfords Hotel. An iron cannon-ball dug up at Ellingham was exhibited by Mr Herbert, and a King Charles halfpenny found near Norham was shown by Miss Pape.

The following new members were elected: Mrs David Lyal, Cammerlaws, Gordon; Miss Patricia Thomson Clay, 18 South Learmonth Gardens, Edinburgh; Miss B. A. Thomson Clay, 18 South Learmonth Gardens, Edinburgh; Victor Pape, Grindon Corner, Norham; John S. Aikman, Jedneuk, Jedburgh; Tristram Warrington Haward, Abbeylands, Alnwick; Mrs R. H. Watherston, Menslaws, Jedburgh; Mrs Alwyn Cavendish,

Arnieside, St Boswells; Miss Jane Bunyan Rodger, Williamsbank, Earlston; Rev. George Lamb, Beechwood, Melrose; Miss Marguerite Wood, 13 Learmonth Gardens, Edinburgh; Alec Wattison, M.B., Ch.B., 26 Ravensdowne, Berwick-on-Tweed; Rev. Thomas Gillison Gillieson, The Manse of Bonkyl, Duns; Mrs Walter Elliot, Harwood, Hawick; Mrs H. G. M. Lock, House of Narrow Gates, St Boswells; Mrs Emily Wright Hardy, 12 The Dunterns, Alnwick; Mrs Mary Lesslie Howard, Percy House, Alnwick; Miss Olive Taylor Thomson, 30 Belmont Place, Kelso; Mrs Helen Maud McDougal, Blythe, Lauder; Mrs E. M. Horsburgh, Horn Burn, Ayton; Countess Tankerville, Chillingham Castle, Northumberland; Mrs Christian Bowlby, Purves Hall, Greenlaw; Mrs Agnes Scott Makdougall, Gala House, Galashiels.

The second meeting of the year 1939 was held on Wednesday, 28th June.

A hundred and twenty members met the President at Belsay village in spite of a grey morning, which had meant rain in many places when enthusiastic members were starting out.

Following the President, cars drove up a mile of fine avenue to the old castle of Belsay, where Mr Hunter Blair pointed out the main features of this fine ruin, built in the time of Edward III, standing among beautiful old trees, and considered to be one of the most perfect and certainly by far the most imposing specimens of castellated architecture in Northumberland.

Members were then taken inside the castle and up a narrow winding stone stairway to the large banqueting-hall. Here Mr Blair spoke of the owners and fortunes of Belsay in his usual interesting, knowledgeable and racy manner.

After lunch members walked through the famous quarry gardens, and enjoyed seeing how the deep and rocky defiles which supplied the stone for the modern house had been transformed by rock-loving plants, flowering shrubs, and even palm-trees into a place of wild and picturesque beauty.

A move was next made to Bolam Church. Bolam—the hamlet on the bol or hill—was once a small but flourishing town; practically nothing of this now remains but the church of St Andrew. This church is of great interest, being one of

the few churches in Northumberland erected in Saxon times. A lovely little place both inside and out, but so hidden by its old surrounding trees and out of sight from the high road that it was a special delight to find it there. Mr Hunter Blair again spoke.

Members then drove to Whalton village, where some 40 members sat down to tea with the President. A specimen of the moth *Selenia tetralunaria* (Purple Thorn) was brought by Mr Herbert.

The third meeting of the year 1939 was held on Thursday, 27th July.

A delightful day of quiet warmth and pleasant shadows brought 150 members and friends to meet the President at Coupland Castle. Coupland stands in pleasing parkland and close to the little river Glen. Though not a large mansion, it consists of an old Border tower and an adapted farm-house joined together by a more modern building. The date is early seventeenth century. A long stone chimney-piece in what is known as "The Haunted Chamber" bears the date 1619. The pepper-pot turrets, which shared with Dilston and Duddo in being the only examples south of the Tweed, have now disappeared under the hand of modernization. The Rev. M. M. Piddocke gave a most interesting talk on the castle and its owners, after which members were taken through several of the rooms, and the more adventurous climbed to the top of the tower.

The next point of interest was the sandstone cave, known locally as Cuddy's Cove, which makes a prominent point in the landscape where it juts out from the western base of Gled Law. This small cave, hollowed out by the waters which covered Milfield Plain at the end of the Ice Age, is said to have sheltered St Cuthbert before he retired to Lindisfarne. Members were able to enjoy the very fine view stretching westward over the plain, through which the Glen twists and turns many times, while the Cheviots stand out boldly on the horizon. Mr Robert Carr, with an enthusiast's knowledge, spoke on the geological interest of the district.

Driving next to West Horton, there was a short walk across two grass fields to see some cup-and-ring marked stones which

have recently been rediscovered by Mr W. B. Davison. The markings are very clear and of unusual form, and add yet another series to this very rich district. Mr Davison told members of the several theories which various experts hold in regard to these prehistoric markings, such as sun-worship, rock maps, camp plans, but pointed out that so far nothing definite was really known beyond the undoubted fact of their existence in several parts of the country, and especially in Northumberland.

Mr Herbert pointed out the position of the sole remains of the fine Horton Castle, which was demolished early in the nineteenth century.

Continuing by way of Fowberry Tower a return was then made to Wooler, where some 40 members sat down to tea with the President.

Mr Dodds brought a woman's jaw-bone complete with teeth—other than the wisdom teeth—taken from the large find of skeletons made during road-widening operations at Roxburgh Barns in the spring of this year. Mr Dodds also brought a stone axe discovered at Little Swinton.

The fourth meeting of the year 1939 was held on Wednesday, 9th August.

A fine morning brought 130 members to meet the President at East Linton, and the 50 cars made a long line as members drove up the hill to park on reaching the narrow road for Hailes. After a walk of some three-quarters of a mile Hailes Castle was reached. The splendid work done here by H.M. Office of Works was much appreciated, and several members spoke of their former remembrance of this ruin as covered with ivy and surrounded by nettles. Miss Simpson, Assistant Inspector of Ancient Monuments, gave a most interesting talk on the history and architecture, pointing out the way in which several feet of solid rock has been used on which the wall has been placed. The castle of Hailes is noteworthy as having been a possession of the famous Earl of Bothwell, and part of it dates from the thirteenth century. The postern stair, strongly vaulted and ribbed, which leads down to the river, is of special interest. A pleasant time was spent wandering through and round the castle, after which a return was made to the cars.

The next move was to visit the beautiful Abbey Church of St Mary—Haddington—which stands on the south bank of the Tyne, and close to the old Nungate Bridge. It was dedicated to St Andrew by King David the First, and the western end is still used as the Parish church.

The Rev. H. B. Gooderham spoke from the ruined choir, and recalled the past grandeur and importance of Haddington in matters and buildings both of Church and State. Much interest was taken in the solid silver chalice which has been in use in the church for the last 250 years. The burial vault of the Lauderdale family was shown, and the more adventurous went down to see by the aid of lighted candles this dark and damp resting-place of some 20 stone coffins.

Mr Gooderham then led the way over the Nungate Bridge and through the narrow intricacies of the oldest part of the town to where St Martin's Chapel stands, weather-worn, deserted and open to the sky, a mute, but who shall say a silent reminder of a greatness and wisdom which is too often passed by or neglected in our own would-be self-sufficient time.

Fifty-two sat down to tea with the President in the Hardgate. Mr Herbert brought several specimens of moths which were handed round. Attention was also called to several interesting and unusual botanical finds made during the day: the Hoary Potentilla, Hedge Bedstraw and Wall Barley Grass.

The fifth meeting of the year 1939 was fixed for Thursday, 7th September, when members were to meet the President at Elsdon village. Mr Hunter Blair was to have spoken at the Church and the Mote Hills. The President would have pointed out the old cockpit and pinfold for stray cattle, and said a few words on these interesting survivals of a bygone age in this remote Northumbrian village. In the afternoon it was proposed to visit the woollen mill at Otterburn to see the making of this famous tweed and inspect the finished article in the show-room. Tea was arranged to be in readiness at Otterburn Hall Hotel. But the war which broke upon an anxious world on 3rd September made it necessary to cancel this meeting at the last moment. Perhaps if it is able to teach us that where God is removed by man from His own creation, man very soon finds himself overwhelmed by the very thoughts

and science and machinery of which he has grown so vain-glorious and proud, then even this seeming disaster of war may bring in its train something of great worth.

Miss M. I. Hope, Secretary, was unable to be present to read her report, as she left earlier than was expected for Gloucestershire owing to lighting and petrol restrictions.

In her report, the last in her position as Secretary, Miss Hope stated: "The first four meetings were well attended and were fortunate in having fine weather, that held in May to visit the Catrail and Torwoodlee Broch being noteworthy both for the warm and brilliant sunshine and the beautiful blue of the hills and sky. Belsay Castle in June and Hailes and Haddington in August were specially interesting and largely attended. The sudden black cloud of war made it necessary to cancel the September meeting at a moment's notice, and this report is being read under the same dreadful conditions."

As suggested by the Secretary at the last general meeting, a series of section meetings for the study of Natural Sciences was worked out. As the result of a very large response of members to the inquiry card, two meetings were held for birds under the leadership of Mrs Swinton and Mr Sanderson; three for flowers under Mr J. Brown and Mr Falconer, two for butterflies under Mr H. B. Herbert, and three for rocks under Mr R. Carr and Mr Taylor. Unfortunately a number of the meetings were rather poorly attended, in spite of a special fixture-card having been sent out at the beginning of the season, which must have been disappointing for those who responded so generously to act as leaders, both in the matter of arranging and carrying out the section meetings. It is probable that if these meetings can be carried out for another year better attendances will be forthcoming, but that depends in large measure on the willingness of leaders again to undertake this much-needed but not so well-supported side of the Club's activities.

Twenty-three new members have been elected during the year, and there is still a waiting-list.

"It is with very sincere personal regret that the Secretary's resignation is now handed in to the Club. The twelve years of office have meant constant thought and often hard work for one whose thoughts do not run too easily along the lines of

organisation and attention to details, but these have been far outweighed and, indeed, almost forgotten through the unvarying kindness and friendly courtesy given by fellow-officials and members on every occasion and at all times. May my successor enjoy an equal good fortune when the grim and evil times of war are over."

THE WIDDRINGTONS AND WIDDRINGTON CASTLE.

By C. H. HUNTER BLAIR.

With a note on the architecture by H. L. HONEYMAN.

ABBREVIATIONS.

- AA *Archæologia Æliana*.
CP *Complete Peerage*, by G. E. C. New and Old Eds.
DS Durham Seals, *Arch. Æl.*, 3rd ser., vols. vii–xvii.
HN *History of Northumberland*, by John Hodgson.
NRS *Records Series of Society of Antiq. of Newcastle*.
SD *History of Durham*, by Robert Surtees.
SND Seals of Northumberland and Durham, *Arch. Æl.*, 3rd. ser.,
 vols. xx, xxi.
SS Publications of the Surtees Society.
Visits. Official Visitations by Heralds.

In the days of Henry II, before the year 1162, Walter, son of William, lord of the barony of Whalton, granted ¹ to “Bertrann de Wdringtuna” ² and his heirs the vill of “Wdringtuna” and half of “Burghdunia” to hold, as his father had held and as he himself had hitherto held, by the service of one knight.

The history of the various branches of this distinguished and widespread family has been written in the pedigrees printed in the county histories of Hodgson and Surtees as well as in the Visitation pedigrees of the heralds.³ There is therefore no need to tell again the twice told tale; it is enough to say that from the twelfth to the eighteenth centuries, for twenty generations their lives were part of the history of Northumberland, its legends and its ballads. The most famous of the latter: *Chevy Chase*, tells of one—

¹ NRS, viii, 235.

² Spelt also Wudrington and Wodrington; that is, the farm of one Wuduhere or Widuhere (Mawer, *Place Names of Northumberland*, p. 216).

³ HN, I, ii, 200, and II, ii, 104, 230, 251 and 297; SD, ii, 8; *Visits. of 1615*, ed. Foster, and that of 1558, ed. Dendy (SS, 122). See also AA, 2nd, iii, 189.

"Then bespayke a squyar of Northombarlande,
 Ric. Wytharynton was his nam,
 It shall never be told in Sothe-Ynglonde, he says,
 To kyng Herry the fourth for sham.
 I wot youe byn great lordes twaw,
 I am a poor squyar of lande,
 I wylle never se my capteyne fyght on a fylde,
 And stand myselfe and look on,
 But whyll I may my weppone welde,
 I will not fayl both harte and hande.

For Wetharrynton my harte was wo,
 That ever he slayne shoulde be;
 For when both his leggis wear hewyne in to
 Yet he knyled and fought on his kne."¹

Their end came in 1716, William, the fourth baron Widdrington of Blankney, with his two brothers, came out, with the earl of Derwentwater and Thomas Foster, in the rebellion of 1715. They were taken prisoners at the battle of Preston and in the following year impeached of high treason, found guilty, and though their lives were spared, their lands were forfeited and their castle, sold to strangers, fell into ruin.

There are no records nor remains left of the manor house which preceded the castle. It would be of the simple plan which in the twelfth and thirteenth centuries sufficed for the mansion of a "squyar of Northombarlande." A hall or general living room with a solar or chamber at its upper or dais end, either on the same level or on a second storey, which served at once as a bedroom for the lord and for his private business; it was indeed used for all purposes not public. A cellar or lower hall was usually either beneath or beside the chamber. The kitchen, with larder and buttery placed at the lower end of the hall were divided from it by "the screens."² A house of this type with possibly, as the years passed, some additions tending towards greater privacy and comfort remained the dwelling-

¹ A more modern version of the last verse reads:—

"For Witherington needs must I wail,
 As one in doleful dumps,
 For when his legs were smitten off,
 He fought upon his stumps."

² *Domestic Architecture*, Turner, i, pp. 2 ff.; *Mediæval England*, pp. 52-53.

place of the Widdringtons, until, in September 1341, Sir Gerard Widdrington, kt., had licence from Edward III to fortify and crenellate his house (*mansum*) and so make it into a castle and to make a park around it. This fourteenth century castle consisted of the turreted, battlemented and machicolated tower shown on the left centre on the earliest known view of Widdrington castle made in 1728 (plate XI).

An account of the rooms, with their furniture, in this building has been preserved in the will of Sir Henry Widdrington, dated February 1592;¹ it contains interesting details of the accommodation and furnishings of a house of an important family of knightly rank in Northumberland in the time of Elizabeth, and therefore may well be summarised here:—

1. *The Great Chamber.*—Its walls were hung with “hangeinges of imagerie” (tapestry) and contained a table covered with a “cloth of grene,” three chairs in green and red velvet, six cushions, one a “longe one,” all covered with damask or needle-work (embroidery), eight stools seated in green, a small table, “three side-cupboards,” three forms and one “gret iren bond chist.”

2. *The Garden Chamber.*—This was hung with green “saye” (a fine serge) and contained a bed with tester, vallance and curtains of damask, the bed-clothes were a featherbed, a bolster, five blankets, two pillows and one quilt. It was furnished with one chair, two stools, two cupboards and a “long” cushion.

3. *The sealed chamber*, that is with a ceiling, also contained a bed, hung with purple velvet and furnished otherwise like number 2.

4. *The Studye within the Great Chamber* contained a bed hung with curtains of “arras worke,” but apparently no other furniture than the bed-clothes.

5. *The mydle chamber*: also a bedroom, the bed hung with “taffetie” and, besides the clothes, only one side cupboard with a covering and a cloth of “needle-work.”

6. *The large parler*, which, in spite of its name, was also furnished as a bedroom, its walls hung with “blew flanell” and the bed with vallance and curtains of “taffetye,” in addition to the bed-clothes it contained a green rug, two chairs, two cushions, one chest, one cupboard, one closed bedstead and another chair.

7. *The stair-head chamber*: a bed with its coverings and vallance, one cupboard and one chair.

8. *The south turrett*: a “stoupe” bedstead with tester, vallance and curtains, the usual bed-clothes and a covering of red and yellow.

9. *The towre head chamber*: a bedstead with its curtains and coverings.

¹ SS, vol. 38, pp. 225 ff.

10. *The highe chambers* : three bedsteads, a cupboard, and a chair.
11. *The hall* : two "bordes," two forms, one table and an iron "chimleye."
12. *The kitchinge* : cooking utensils, pots and pans, 28 pieces of pewter, powdering tubs, etc.
13. *The newe house* : barrels, troughs, washing tubs, etc.
14. *The butrie* : trays, basins, jugs, candlesticks, basins, ewers, etc.

It would seem from this inventory that the castle, with the addition of the "newehouse" which could not have been of any size nor importance, had not then been added to but remained much as it was in the fourteenth century. The hall had, however, apparently ceased to be used as a general living room and had become merely an entrance lobby to the house. *A Long Gallery*, that most important feature of an Elizabethan mansion, is not mentioned; *The Great Chamber* at Widdrington remained the chief of its rooms.

The architectural history of the castle I leave to Mr Honeyman (*post*, p. 139); the following is a short account of its later owners after 1592, which may give some guide to the buildings subsequently added to the tower:—

Sir Henry Widdrington, who died in February 1592,¹ left no children by either of his wives. His second wife, Elizabeth, daughter of Sir Hugh Trevanion, was dowered with the manor and castle of Widdrington and the manors of Woodhorn and Linton for the term of her life. She married as her second husband, on the 20th August 1593, Sir Robert Carey, knighted October 1591, a younger son of Lord Hunsdon, a kinsman of queen Elizabeth. He was then member of Parliament for Morpeth (1586–90) and deputy warden of the West and East Marches (1593–96); after his marriage he became Lord Warden of the East and Middle Marches (1598–1603), captain of Norham (1595), and member of Parliament for Northumberland (1597–1601); during these years Widdrington was his chief residence. He stayed at "my own house at Widdrington" on the second night of his hasty journey north from London to announce the death of Elizabeth to James at Edinburgh, and it was from there that, as Lord Warden, he ordered the proclamation of James as King of England to be made at Alnwick and Morpeth, and "took order with my deputies to see the Border kept in quiet."² James I spent the night of 8th April 1603 at

¹ HN, II, ii, 236.

² HN, II, ii, 243.

Widdrington on his journey south to London. He left early the next morning for Newcastle upon Tyne, but before leaving he knighted Henry Widdrington and other gentlemen of Northumberland.¹ Carey received several appointments at the Court after the accession of James in 1603, but appears to have held no more important offices in the north, though he was made captain of Tynemouth castle in 1612 and served on the Council of the North in 1628.² He and his wife probably ceased to live at Widdrington shortly after 1603; in their later years they lived at Moor Park, Herts. In 1622 Sir Robert was created Baron Carey of Lepington, and in 1626 Earl of Monmouth. He died 12th April 1639 and his widow in 1641, both were buried at Rickmansworth.³ The Henry Widdrington, who was knighted by James I, was the nephew of Sir Henry Widdrington who died in 1592. He was the eldest son of Edward Widdrington of Swinburne Castle, and married Ursula, daughter and heiress of Reynold Carnaby of Halton Tower. He describes himself as "of Widdrington Castle" in a deed dated the 7th October 1605.⁴ He was deputy warden of the Middle Marches and Keeper of Redesdale under Sir Robert Carey, sheriff of Northumberland in 1605 and M.P. for the county in the parliaments of 1604, 1615, and 1621. He died at Swinburne Castle 4th September 1623 and was succeeded by his eldest son William, then about fourteen years of age, who, in 1629, married Mary, daughter and heiress of Sir Anthony Thorold of Blankney, Lincolnshire. He was sheriff of Northumberland in 1637 and member for the county in the Long Parliament (1641–42). He was expelled from the House on the 26th August 1642 for refusing to attend its sittings and for raising arms against it. A zealous Royalist he enlisted a large force for King Charles which fought under the Duke of Newcastle in many of the battles of the Civil War. He was slain on the 3rd September 1651, in a skirmish, at Wigan, when a detachment under the earl of Derby was surprised and defeated there. As a reward for his great services to the King he had been created baron Widdrington of Blankney on 2nd November 1643.⁵ His son William, who succeeded to the peerage on

¹ *Knights of England*, Shaw, ii, 100.

² *Off. Baron. of England*, ii, 506.

³ CP, ix, 59.

⁴ HN, II, ii, 254, no. 38b.

⁵ CP, old ed., viii, 135.

10th March 1651–52,¹ was one of the Council of State at the Restoration; he married, on the 12th January 1653–54, Elizabeth, daughter and heiress of Sir Peregrine Bertie of Evedon, Lincolnshire. He lived chiefly at Widdrington, and dying there in 1676 was by his desire buried in the neighbouring church.¹ It is his achievement of arms carved above the castle entrance in Buck's view made in 1728 (plate XI and illustration on p. 138). Little is recorded of the third baron, who lived mostly at Blankney, died and was buried there in February 1694–95.

William, the fourth lord, with his two brothers joined the Jacobites of Northumberland in the rebellion of 1715, as said above, they were, in the following year, impeached of high treason and lord Widdrington's lands and honours were forfeited. He lived afterwards at Nunnington in Yorkshire and died at Bath in 1743.¹ After its forfeiture the castle was uninhabited for many years and gradually fell into decay. It was eventually, about the year 1750, purchased by Thomas Revel of Fitcham, Surrey, whose daughter and heiress, Jane, married Sir George Warren. They appear to have often lived at Widdrington, possibly in the repaired and restored north tower as shown in the drawing reproduced on plate XII.

Plates XII and XIII show the state of the castle at that time. Sir George finally pulled down the whole castle and built an entirely new house (possibly on the lines of the original) which was destroyed by fire in 1776 when nearly completed.² An engraving by Basire purports to show this new castle, but the drawing is simply a copy of Buck's view of 1728 (plate XI) with some figures added and with the shield of Warren replacing that of Widdrington above the entrance. Sir George eventually built a house, without distinction and of the strange design shown on plate XIV, to the south-east of the original site. In this he often lived. After his death it was let to various tenants, the last of whom was Charles John Clavering,³ descended from a cadet branch of the Claverings of Axwell Park. He left it in 1802,⁴ since then it remained uninhabited and fell into complete ruin, though the central tower was still standing derelict "in

¹ CP, old ed., viii, 135.

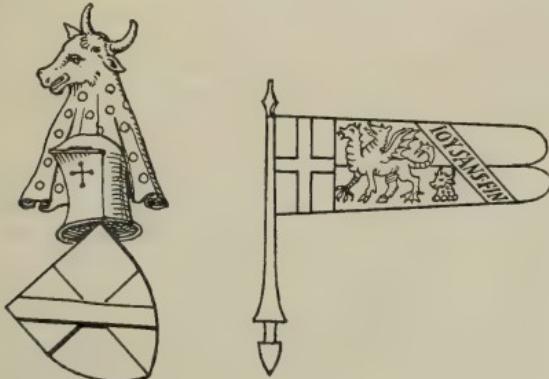
³ SD, ii, 248–49.

² Hutchinson's *Northumberland*.

⁴ HN, II, ii, 245.

a green meadow" ¹ as late as 1888. This also has now disappeared and no stone is left standing of the castle of Widdrington.

ARMORIALS OF THE WIDDRINGTONS.



Quarterly silver and gules a baston sable : crest upon a helm a bull's head and neck sable strewn with silver pellets : standard the cross of St George the fly party silver and gules a two headed dragon sable, winged gold, with crest beyond it as above blazoned. Motto: JOY SANS FIN (Visit. of 1575).

ARMORIAL SEALS.

1. ROGER OF WIDDRINGTON—quarterly a baston . DS. 2654, A.D. 1357.
*SIGILL. ROGERI. DE. WIDERINGTON.
2. ROGER OF WIDDRINGTON—quarterly a baston, the shield is ensigned by a helmet upon which is the crest of a bull's head DS. 2653, A.D. 1369.
S'ROGERI D' WODERINGTON.
3. GERARD OF WIDDRINGTON—quarterly a baston SND. 843, A.D. 1361.
Legend destroyed.
4. GERARD OF WIDDRINGTON—quarterly a baston, the shield is surmounted by a helm upon which is the crest of a bull's head strewn with pellets.
S'gerardi de Wodderington. DS. 2651, A.D. 1466.

WILLIAM SECOND LORD WIDDRINGTON ²—quarterly a bend—Widdrington, on an escutcheon of pretence, three battering rams—Bertie. A baron's coronet is above the shield and upon the helm is the crest of a bull's head pellety, supporters two stags. Motto: JOY SANS FIN.

P.R.O. S.P. DOM. Chas. ii, vol. 24, no. 157.

This seal is attached to a signed letter addressed to "Mr Peeps at the Navy Office there."

¹ Tomlinson's *Guide to Northumberland*, 282.

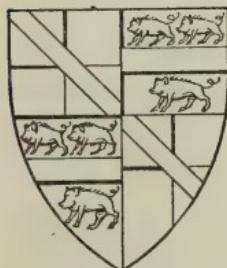
² Kindly sent to me by Mr Hilary Jenkinson of the Public Record Office.

ARMORIALS FROM THE ROLLS OF ARMS.

- S'GERARD of Wyd(eryngton)—quarterly silver and gules over all a baston sable Powell's roll of Ed. III.
- GERARD of WIDDINGTON—quarterly silver and gules a baston sable Jenyn's Ordinary.
- Monsr. GERRARD de WYTHERYNTON—quarterly silver and gules a bendlet sable Richard II Roll.
- Sir WILLM. WODRINGTON—quarterly silver and gules a bend sable Surtees Socy. Publs. 146, p. 167.
- Th. de WODERINGTON—quarterly silver and gules a bend gobony sable and gules Ibid., p. 152.
- Sir JOHN WYTHERINGTON—quarterly silver and gules a bend sable Constable's roll, SS, 41, p. v.
- HENRY WETHRINGTON of Wethrington, knight—quarterly silver and gules a bend sable Eliz. roll, SS, 41, p. xxxiii.

ARMORIALS FROM THE HERALDS' VISITATIONS.

- Visitation of c. A.D. 1480-1500—quarterly silver and gules a baston sable SS, No. 144, p. 35.
- Dalton's Visitation of 1558—the shield is left unfinished SS, No. 122, p. 110.
- Flower's and Glover's of 1575—for achievement there given see p. 135 above; there is also a shield quarterly I and IV Widdington II and III, gules a fess between three hedgehogs silver—Claxton¹ SS, No. 146, p. 90.
- St George's of 1615—quarterly I and IV Widdington II and III barry of six silver and azure-Grey² ed. Foster, p. 125.



St George's of 1615—quarterly I and IV Widdington II and III gules a fess between three swine silver—Swinburne³ ed. Foster, p. 126.

¹ Sir Ralph Widdington married, before 1480, Felice, daughter and coheiress of Sir Robert Claxton of Horden and Dilston. Sir Ralph was made a banneret by the duke of Gloucester in Scotland 24th July 1482 (Shaw's Knights, ii, 18).

² Roger Widdington married, in the early fifteenth century, Elizabeth, daughter of Sir Tomas Grey of Horton and widow of Sir William Alitchester. For the shield here given for Grey of Horton see NCH. xiv, p. 239.

³ John Widdington married, in the early fourteenth century, Christine, daughter and coheiress of Adam of Swinburne. The proper arms of Sir Adam were on a cross five sheaves (DS, No. 2362), but see blason on p. 137, post.

Sir Edward Walker's ¹ *Arms of Nobility time of Charles II.* The quarterings of William lord Widdrington.²

Quarterly of fifteen—

- I. WIDDRINGTON—*quarterly argent and gules a bend sable.*
- II. SWINBURNE ³—*argent a boar's head between cross-crosslets gules.*
- III. CLAXTON ⁴—*sable a fess between three porcupines argent.*
- IV. ?—*argent a pile engrailed sable.*
- V. TINDALL ⁵—*argent a fess dansant and three crescents in chief gules.*
- VI. CARNABY ⁶—*barry of four blue and argent on a chief gules three besants in a canton barry of six or and blue a bendlet gules a demy lyon in chief issuant blue.*
- VII. HALTON—*blue a lion rampant or.*
- VIII. CURWEN ⁷—*argent a frette gules a chief blue.*
- IX. CARUS—*argent on a chevron between cinquefoils gules three mullets argent.*
- X. PRESTON—*argent two bars and on a canton gules a cinquefoil or.*
- XI. THOROLD ⁸—*sable three goats rampant argent.*
- XII. HAUGH—*argent three bars gules and a canton blue.*
- XIII. BREREHAUGH—*argent a cross potent gules between four ogresses.*
- XIV. MARSTON—*argent a bend ragule between six ogresses.*
- XV. WIDDRINGTON—as no. 1.

ARMORIALS UPON BUILDINGS.

The quarterly shield of Widdrington appears—

1. Above tomb on north wall of chancel in Widdrington church.
2. Upon a roof boss Bothal church.
3. On a roof cloister, Durham cathedral.
4. On roof of Brancepeth church.

The armorial achievement of William, second baron. Quarterly, I, Widdrington, II, *silver crusilly and a swine's head gules*.—Swinburne, III, *silver fretty gules and a chief azure*.—Curwen, IV, *sable three goats rampant*

¹ Garter King of Arms, 1645–1677.

² Kindly sent to me by Mr Anthony Wagner, Portcullis pursuivant.

³ See note 3 on p. 136 above.

⁴ See note 1 on p. 136 above.

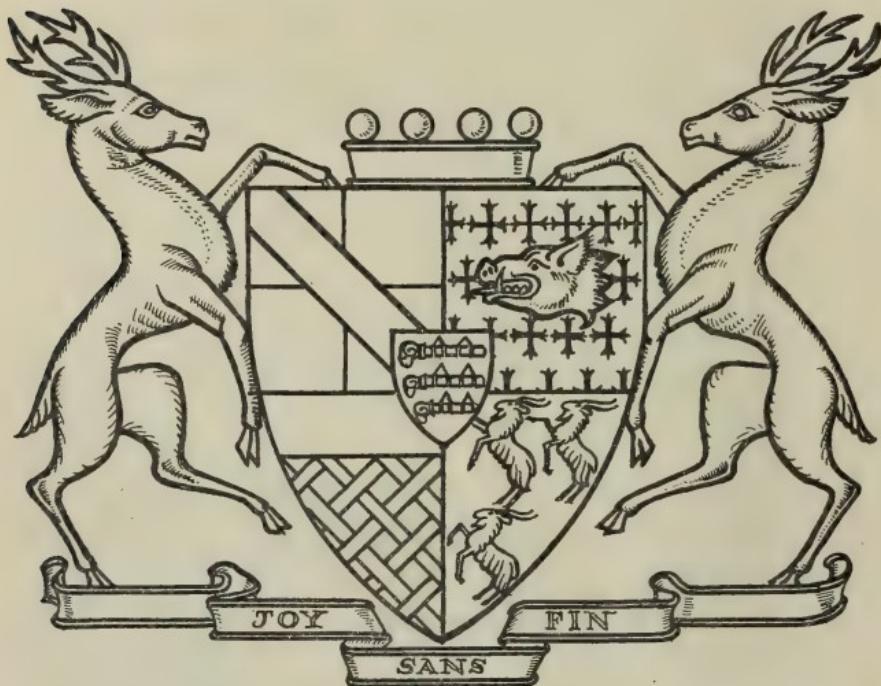
⁵ The shield of Tindall of Norfolk and Suffolk. It should be *silver on a fess sable three sheaves gold* for Tyndale of Dilston.

⁶ For notes upon these arms and of Halton, see NCH, x, ped., face, p. 408.

⁷ Sir Henry Widdrington, born 1561, knighted 1580, married Mary, daughter of Sir Henry Curwen of Workington. The shields of Carus and Preston were brought in by this marriage.

⁸ Sir Wm. Widdrington, first lord Widdrington, married Mary, daughter and heiress of Sir Anthony Thorold of Blankney. The shields of Haugh Brethaugh and Marston were brought in by this marriage (see *Genealogist*, NS, v, 43, and *The Herald and Genealogist*, iii, 421).

silver—Thorold, on an escutcheon of pretence *silver three battering rams fessways proper headed and garnished azure*.—Bertie.¹ The shield is ensigned by a baron's coronet and supported by two stags; motto beneath—JOY SANS FIN.



Above doorway of main entrance of Widdrington castle in 1728.

The crest of a bull's head was carved upon the top of the pillars at each side of the entrance steps (plate XI).

In the same view the quarterly shield of Widdrington appears twice upon the building to the left of the main tower. Above the door in the middle of the same building is an armorial panel with inscription, but neither are legible and have not been elsewhere recorded.

ARMS OF OWNERS AND TENANTS OF WIDDRINGTON CASTLE.

WIDDRINGTON (c. 1162–1716)—*quarterly silver and gules a baston sable*.

Sir ROBERT CAREY (1595–1605)—*silver on a bend sable three roses silver seeded gold, a martlet for difference*.

¹ William, second lord Widdrington, married 12th Jan. 1653–54, Elizabeth, daughter and heiress of Sir Peregrine Bertie of Evedon.

REVEL (*c.* 1750–1761)—*silver on a chevron gules three molets sable (or crosses crosslet) and a border sable.*

WARREN (1761–1826)—*checky gold and azure on a canton gules a lion rampant silver.*

VENABLES-VERNON (1826–?)—quarterly I and IV quarterly 1 and 4 *silver fret sable*, 2 and 3 *gold on a fess azure three sheaves gold*—Vernon II and III, *azure two bars silver*—Venables.

CLAVERING (?–1802)—*quarterly gold and gules a bend sable.*

NOTE ON THE ARCHITECTURE.

By H. L. HONEYMAN.

WIDDRINGTON castle crowned a hillock or mound, a short distance east of Widdrington church. The combination of church, castle, and mound might suggest a site of Norman origin, but nothing definite can be said about the castle prior to the reign of Edward III. In 1341 Gerard Widdrington obtained licence to fortify his house at Widdrington, but, as he had another house at Haughton which he undoubtedly fortified, we cannot be certain that he used the licence at Widdrington: he may indeed have made one licence serve for both. The date would suit his work still extant at Haughton, but it would suit equally well the parapets and bartizans of the south tower at Widdrington, the body of the tower might be somewhat earlier.

North of this tower stood the great hall and beyond it the north tower, built in the sixteenth century to contain kitchen and offices. It had several windows of plain Tudor pattern, irregularly disposed, and it had a square bartizan at its north-east corner and a buttress, probably a later addition, on its east front.

In 1592, as already stated, the castle consisted of three parts: south tower, hall, and north tower, both towers projecting eastwards from the hall so as to leave a recess wherein was the principal entrance, probably first-floor level above cellars.

Between 1592 and the outbreak of the Civil War the hall was rebuilt, and heightened to provide a “long gallery” above it. Numerous large and ornamental new windows were inserted in the south tower and one on the south side of the north tower, and the recessed space between the towers was, either then or later in the seventeenth century, filled in with a raised terrace on arches reached by a magnificent flight of stone steps flanked by piers supporting the family crest of a bull’s head (plate XI).

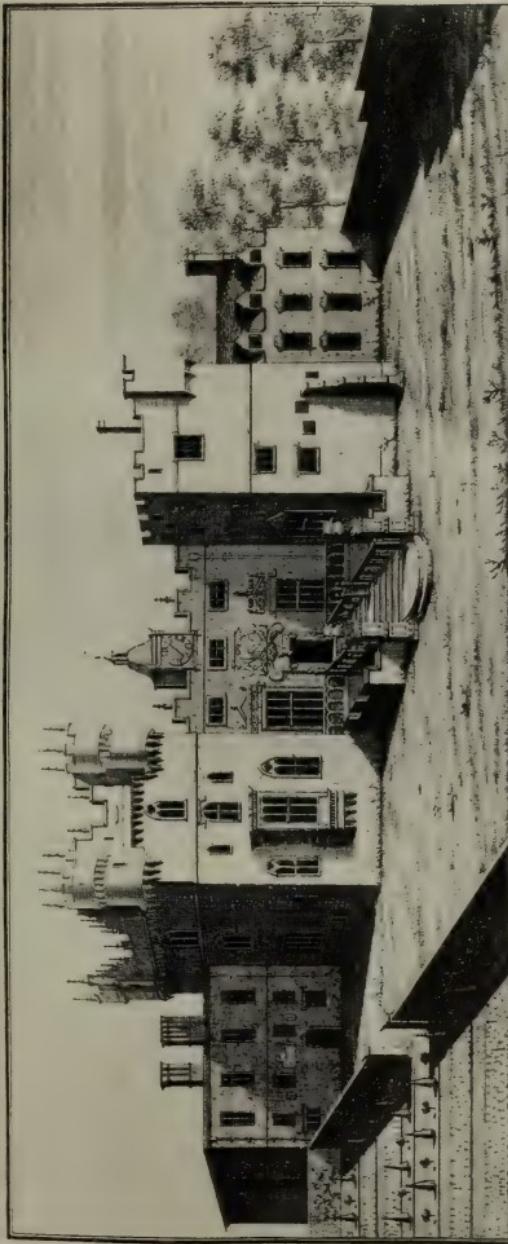
William, second baron Widdrington, between 1653 and 1676 added, at different dates, wings projecting north and south from the two towers, enclosed a forecourt, and laid out on the south side thereof one of the elaborately neat Dutch walled gardens of the period. He also inserted a new entrance door surmounted by his armorial achievement and placed his crest of a bull’s head on the piers at each side of the outer staircase which he probably built. Sir George Warren probably made the next alterations, *circa* 1750, all aiming at increased comfort, decreased picturesqueness, and the obliteration of Widdrington memories. If so, he rebuilt

the north tower and pierced its walls with plain double-hung sash windows and a door opening on to the terrace. The elaborate carvings above the hall windows were removed so that the gallery window-sills could be lowered, and conventional baroque scroll finials replaced the Widdrington crests on the stair piers. A parapet was added to the south wing and about the same time a gateway was made in the north wall of the forecourt to give access to the base court. Finally, when "landscape gardening" came into fashion, the formal garden became a stretch of grass dotted with small trees and bushes arranged with careful carelessness (plates XII and XIII).

Some time after 1772 the castle was demolished by Sir George Warren. The destruction of one of the most interesting houses in Northumberland did not meet with approval in the county, and when he consulted one of his friends about a design for the new house the friend sent him without comment a copy of Buck's engraving of the old one! The new house is said to have been burnt down in 1776 and it was succeeded, on a site south-east of the original one, by the plain Georgian Gothic villa of which a view is reproduced (plate XIV).

At the time of its destruction the castle consisted of the following parts:—*Forecourt* bounded by high stone walls: this had a walled garden on its south side, a stable block on the north, and a base court beyond. The main building of the *castle* formed the west side of the forecourt and was subdivided as follows: The *Hall*, two stories high above a low ground floor of cellars, had a central doorway flanked by two large mullioned and transomed windows, above these were the three windows of a gallery surmounted by a crenellated parapet and a central clock turret with square bell-shaped roof. Two of the merlons of the parapet support curiously carved and moulded finials. In front of the hall was the terrace already referred to. The character of the stonework, as drawn by Buck, suggests Jacobean work, but it is quite possible that, as the armorials suggest, it dates from the second half of the seventeenth century. East of the hall stood the *north tower* as rebuilt in the eighteenth century and north of it the *north wing*, a very interesting piece of late seventeenth-century work. It had two stories and attics with three east windows in each. The attic windows raised as dormers, or "lucarnes" as they were called, under scroll Dutch gables; the other windows with cross transomes and mullions and pretty "broken" pediments. The *south wing* was plainer and its ground floor looked earlier. Each of its two upper stories had four two-light mullioned and cross-transomed windows to the east and one to the south. In the centre of its east front was a shield of arms set above a panel with a lengthy inscription recording the date of this part of the building. Between south wing and hall stood the great *south tower*, the rival of Belsay and Chipchase, made doubly imposing by its seventeenth-century fenestration and by the row of finials then added to the merlons of its parapets. Its basement, probably vaulted, was lit only by a small inserted window on its south side, but the numerous "chambers" of its upper floors, listed in the inventory of 1592, were lit by many windows, several of them obviously set in earlier openings. Some of the inserted windows were elaborately decorated, in particular the large jutting window at first-floor level on the east side which, as drawn by Buck, recalls the well-known oriels on the garden front of

THE EAST FLEW OF WIDDINGTON CASTLE IN NORTHUMBERLAND.



This castle hath long since been in the possession of the family of that Name, one of whom Richard Middington, Esq. of the County of Northumberland, & Colonel of a Regiment of Foot, was son to Sir Willm. Middington, who was the first to the Queen of France of that family, and her self in like manner became the Queen of King Charles the First.

J. & J. D. Sculpsit.



Front View of Widdrington Castle



WIDDINGTON CASTLE IN 1773. EAST VIEW.



A. Smith Esq. near of Widdrington Castle. The manor & property of Mr. T. A. Lamm, Farnham, Surrey. 1773.

WIDDINGTON CASTLE IN 1773, SOUTH-EAST VIEW.





Widdrington Castle.

Litho'd by Sir C. T. Bennett, R.A. 1772.
PRESENTED BY C. J. CLAYFRING E.S.Q.

WIDDINGTON CASTLE IN 1776.



St John's College, Oxford. At each corner of the tower was a projecting circular turret with a flat roof, surrounded by a parapet which also projected, reached by stairs behind parapets which were stepped up like inverted gables, a feature found at Haughton, Dunstanburgh, and other fourteenth-century castles. The stable in the forecourt dated from the seventeenth century. Nothing can be said about the buildings of the *base court*, but doubtless they were adequate, for king James VI was well pleased with his entertainment when he visited Widdrington in 1603.

Gleanings in Prose and Verse of Sir George B. Douglas, Bart.

Compiled with Memoir by Oliver Hilson, J.P., ex-Provost of Jedburgh. Foreword by the Rev. W. S. Crockett, D.D., minister of Tweedsmuir, President of the Berwickshire Naturalists' Club. 1936. Galashiels: A Walker & Son, Ltd.

Mr Hilson is to be congratulated on this book, which must have entailed a great deal of work in reading the vast collection of writings and making his selection. The volume is copiously illustrated with photographs, both of Sir George and the Kelso district, as well as of authors to whom he was devoted. It covers a vast field, which shows how many-sided a man he was. The memoir consists of his full life, and the compiling of it was a labour of love to Mr Hilson.

SKELETAL FIND NEAR ROXBURGH CASTLE.

By Miss M. I. HOPE.

ON receiving word early in March 1939 that the Club was wanted to take charge of an unexpected find of human skeletons during road-widening operations, I went to the junction of the Kelso-St Boswells and Kelso-Roxburgh roads, and found a number of scattered bones, a skull, and a large and ever-growing crop of rumours and legends of battles, massacres, and hangings.

After arranging with those in charge of the road work to allow the North bank to remain untouched for a few days, I went round trying to find some of our members able and willing to lend a hand in a bit of careful excavation work. After several disappointments Mr Buist, Kirkbank, very kindly promised to be at the Roxburgh corner next morning, 13th March, with his gardener and the necessary spade, pick, brush, and shovel. Bringing my own gardener and a second supply of tools, we began at 10 a.m. to clear away the top of the low bank, and as soon as bones appeared taking great care to expose without disturbing them. We worked until nearly five o'clock that day. Next morning I returned, having arranged with Mr Cowan, the Roan, that he would try to photograph the skeletons, but the light was unfortunately not good, and it was difficult to distinguish the bones from the earth, although we marked them with white chalk. Two days later, again taking my gardener, I met Dr B. K. Stevenson from the Antiquarian Museum, Edinburgh, and we spent a long and interesting day bringing more skeletons to light. Dr Stevenson took a number of excellent photographs which give an idea of what was being laid bare all the five days I was able to excavate. The next morning—being the last the road construction people were able to allow our work to continue—was wet and cold, but in hope of finding some clue which might

enable a date to be fixed for this strange burial, I again spent some three hours working on the bank. The stretch covered gave different results from all the others as skulls only were found, ten more or less whole and a number broken, or rather so friable that they could not be cleared without crumbling; no other bones were found in this stretch, and the skulls were lying so close together that it was obvious they only had been buried in that part of the trench. The steadily increasing rain and cold wind made the ground like putty, and hands too numb for anything further to be usefully attempted, although the distinct impression was that the end of the shallow trench had been reached. I arranged with the men engaged on the road work to note if any more bones were found, and if so whether whole or fragmentary. Returning a week later to hear the result, I learned that nothing further was found or seen, which makes the apparent length of the trench some 50 yards. As no article of any kind had been brought to light—beyond the ring mentioned by Dr Adams—the reason of the many human remains being placed there so well preserved in such close proximity to the surface must await future discovery which may throw light upon its mystery.

EXTRACTS FROM LETTER FROM JAMES R. ADAM, M.B., CH.B.,
D.P.H., MEDICAL OFFICER OF HEALTH, ROXBURGH.

I am afraid I cannot say whether there were any female skeletons among those in the find near Kelso as I have only seen some fragments.

I am enclosing a frontal bone which I have obtained and which shows marks which may possibly account for the suggestion made by the workmen.

I was shown a ring which I took to be bronze. It was of rounded section, and resembled a medium thickness wedding-ring. It fitted my second finger. It was discoloured, and I understand that attempts to clean it with "Brasso" failed. It was shown to me by one of the employees in my Department, and I thought that he was retaining it, but it appears that he had only received it on loan from a roadman, who now says that he has lost it. It is thought possible that the man con-

siders that his find is of certain cash value and might be induced to renew his search for it for something tangible in return.

Mr J. C. Scott, factor to His Grace the Duke of Roxburgh, reported to the National Museum of Antiquities of Scotland on 1st March 1939 that workmen had come upon numerous human skeletons during road straightening operations at Roxburgh Barns Bank, Kelso. The first discovery was made about three weeks ago and over a score in all have since been found.

The site is the highest point of the ridge between Teviot and Tweed at the very edge of a steep drop to the Tweed flood-plain, about half a mile upstream from Roxburgh Castle. The skeletons have not been found at any point more than 15 feet from the edge, but have been found along a length of 75 feet to date.

According to statements by the workmen, some of the skeletons were stretched out on their backs with their arms along their sides and a stone beneath the head, others crouched or seated, with, in one case, the top of the skull only 4 inches from the surface. There was no definite orientation, one group of three lying with their heads near one another and their feet in different directions. Some of the skulls were said to show axe or sword cuts. As regards date, some skeletons underlay an enormous beech-tree. Unfortunately, the only object of archæological value that was found, a ring on a finger, was thrown away.

With regard to ring and sword cuts, see letter from M.O.H., Roxburghshire.

My brief examination showed that immediately beyond the point where work had been left off at Mr Scott's request, numerous bones were scattered through the soil in great disorder. The disturbance may have been due to the construction of a dike that ran immediately over the spot, or to burials having taken place at different times. The bones had not the appearance of *disjecta membra* thrown in, as after a battle, but of skeletons that had been very considerably disturbed. Immediately below them was a skeleton *in situ*, complete except that most of the legs had already been dug away by the recent work; it had previously been somewhat disturbed, for the left

side of the face had been damaged and the upper jaw pushed over to the right, breaking off the right ramus.

This skeleton lay on its back, but turned rather on to its right side with the right collar-bone along the side of the head. The only remarkable feature was that the hands were behind the back. It was evident that the arms had been tied together a little above the wrists. The head was not pillow'd on a stone and lay facing towards the east, the axis of the grave being N. 250° E., magnetic. The hard natural ground 1 foot 3 inches below the surface of the soil had been dug into in a shallow trough for at most a depth of 1 foot 3 inches to receive the body.

Mr J. C. Scott, who was of the utmost assistance during my visit, must be thanked warmly for the prompt action he took when he first heard of the discovery.

SKELETAL REMAINS FROM MASS BURIAL NEAR ROXBURGH CASTLE.

The skeletal remains represented are a skull with mandible; a frontal bone and imperfect mandible; the bones of a pelvis.

The Skull.—The skull with the mandible is well preserved except for a deficiency of the floor of the left orbit and part of the left maxilla. It is that of a young man, say, about twenty-five years of age; the sutures are all unossified and it is of interest to note that the suture between the two halves of the frontal bone is persistent—metopic. The muscular markings are well developed, mastoid processes are stout, and the glabella and superciliary ridges are of average development. In profile view the vault is relatively of medium height. The frontal region is full, ascending with a steep curve; the vertex is flattened, and there is practically no projection of the occipital pole. The skull is *brachycephalic* with a length-breadth index of 82.8 and is "well filled" with a cubic capacity of 1600 c.c. of mustard seed, well above the average for modern Scottish male skulls. The face is relatively broad, the nasal aperture is of medium width and the orbital height is above the average. There is no prognathism.

The jaws are particularly well developed, with wide palate and dental arches, and complete sets of permanent teeth are present in each. The condition of the teeth is excellent with

no trace of disease, and the enamel of the crowns is little worn. The upper and lower incisors have met "edge to edge."

As regards the other bones from the burial, the frontal bone with its delicate orbital margins and fronto-parietal suture unossified is that of a young female, and the fragmentary rather slightly built mandible also shows female characteristics. The bones of the pelvis are typically male, and as the iliac crests are not completely ossified they indicate a young man about twenty-five years of age.

SKULL FROM MASS BURIAL NEAR ROXBURGH CASTLE.

Measurements in mm.

Sex.	Male. c.c.	Sex.	Male. c.c.
Cubic capacity . . .	1600	Length foramen magnum . . .	35
Glabello-occipital length . . .	186	Transverse arc . . .	328
Ophryo-occipital length . . .	185	Circumference . . .	544
Nasio-inionial length . . .	176		
Minimum frontal br. . .	103		
Maximum . . .	133		
Parietal breadth . . .	154		
Basibregmatic height . . .	133	Indices.	
Biauricular breadth . . .	124	Length-breadth . . .	82·8
Basinasal length . . .	93	Length-height . . .	71·5
Basialveolar length . . .	86	Gnathic . . .	92·5
Nasialveolar height . . .	71	Upper facial . . .	52·2
Nasimental height . . .	121	Total facial . . .	88·9
Bizygomatic breadth . . .	136	Nasal . . .	49·1
Nasal height . . .	53	Orbital R. . .	92·3
Nasal breadth . . .	26	„ L. . .	..
Orbital height R. . .	36	Alveolar . . .	130·0
„ „ L. . .	..	
Orbital breadth R. . .	39		
„ „ L. . .	..	Mandible.	
Alveolar length . . .	50	Condylo-symp. length . . .	98
„ breadth . . .	65	Height at symphysis . . .	32
Sagittal Arc, 1 . . .	132	Height at second molar . . .	28
„ „ 2 . . .	139	Height: coronoid . . .	70
„ „ 3 . . .	124	Height: condyle . . .	60
	— 395	Bicondylar width . . .	126
		Bigonal width . . .	100

LEPIDOPTERA HUNTING AND COLLECTING IN UPPER REDESDALE.

By R. CRAIGS.

WHENEVER a person takes up a hobby, whether it be the pursuit of a science, art, or craft, there is generally some definite cause that prompts the desire and gives the necessary impetus to strike out in a particular line.

Until 20th June 1922 I had no thought of ever taking up the study of butterflies and moths, which form an important order, or group, in the insect world. In entomology this order is scientifically known as Lepidoptera, *i.e.* scale-winged insects. On the morning of 18th June, when cycling along a road near Trewhit, in Coquetdale, I saw a small thick-bodied, red and black coloured moth lying on the middle of the road. Not having seen one like it before my curiosity was aroused, and accordingly I dismounted to examine the insect. It was alive but disabled, and I put it into a match-box. On the Tuesday afternoon, the 22nd, I was passing through Belford and met the Rev. J. E. Hull—now Dr Hull—and he invited me to have tea with him. During the course of conversation I mentioned the moth, and let him see it and asked its name. “You ought to know its name,” said he, and told me that it was a female Ruby Tiger. For years I had kept a record of the birds I had seen in Redesdale and the coming and going of migrants, and Dr Hull’s remark, or perhaps taunt, instantly set me a thinking. Something seemed to say, “Why not also keep a record of the Lepidoptera to be found in the valley?” On the following Friday I went to Berwick Museum—I had not been in a museum before—and there saw a collection of butterflies and moths. Hitherto I had not seen any similar collection, nor yet a book on the subject, but after seeing the handicraft of a skilled lepidopterist my idea of taking up entomology as a pastime was intensified. My first idea was to get hold of the insects, get

them identified, and to keep records of them—when and where they were captured. I was fully aware that divers difficulties would beset my path. I had not the slightest idea of how to proceed. I knew not when nor where to look for any of the species, nor did I know of anyone to whom I could turn for advice. Consequently my methods at first were very crude—even yet they are far from being perfect. Insects that came my way were captured by means of my cap, killed by squeezing the thorax, an ordinary pin was stuck in them and then stuck on to a piece of cardboard. I had no idea of bracing, but used pins to hold the outstretched wings in position, then they were stored in cardboard boxes to await identification. Owing to unskilled handling, mould, and mites—chief enemies of the entomologist—many specimens were ruined beyond identification and had to be thrown away. It was not until 1926 that I gave closer and more methodical attention to the work of hunting and collecting. Just prior a friend in Newcastle was successful in picking up for me a handbook on the *Order of Lepidoptera*. The hints I got from this book were valuable, and gave me an idea of how to proceed with the work. Meanwhile the desire to emulate the work of the skilled lepidopterists, accompanied by the further desire to build up a collection—proofs of the work I had undertaken—had been gradually laying hold on me. Despite the fact that failures had by far outnumbered the successes, I determined to continue with the work. I procured a supply of entomological pins and other appliances, made some rough setting-boards, and built a small cabinet. But still my methods were crude, the workmanship leaving much to be desired. Setting the insects was still a difficult operation, owing, no doubt, to the fact that I was setting or, more correctly speaking, attempting to set the specimens before the tissues had had time to relax, or, as the doctors say, before the *rigor mortis* had passed off.

It was on a Saturday night in August 1926 that I went moth-hunting with a light for the first time and saw the advantage and possibilities of the method, but more anon of that night's outing. Incidentally, I may say that the subsequent results and progress were still far from encouraging. The spring of 1928, however, may be said to be a definite period in my moth-hunting and collecting experiences. Up

to that time I had used a light on very odd occasions, but henceforward I worked with a light in a regular and systematic manner, visiting the sallows, rhododendrons, thistles, heather, and flowers, etc., that attract the respective species in their respective seasons. The Marsh Thistle I have always found to be the most attractive thistle for moths at dusk and after.

At first on these outings identification was a difficult matter, but by degrees I began to learn the habits of a few of the commoner species and to know them by their flight—a great advantage at any time, but more especially at dusk and in lamplight.

On different occasions I have been followed along the side of a wood by bats, and seen moths that I was attempting to capture daringly and adroitly taken in front of my net. One April night when sallowing I struck at a Clouded Drab; simultaneously a Long-eared Bat darted from behind the bush at the moth, with the result that I captured both in the net. On the 26th June 1936, when Mr George Nicholson, Newcastle, who was staying at Catcleugh for the week-end, and I were looking along a line of rhododendrons and sugar patches, a Night-jar passed us on two occasions. On the second occasion it passed through the ray of light, about four feet in front of the lamp. I may say that the migrant Silver Y's were hovering in scores over the rhododendron bushes. The question arises—was the Night-jar also moth-hunting?

The most remarkable, but by far the most painful, experience I have ever had when moth-hunting at night-time occurred on 24th May 1932. I was hunting in a wood when I saw a young Tawny Owl perched on the branch of a tree about a dozen yards distant. I focused the ray of light on it; it gave a barking sort of call, which I imitated, and instantly I was struck a severe blow on the cheek and side of the head by one of the parents, the mother no doubt. There had been some rain. I was standing on a slope at the time, and the force of the impact caused me to slip and fall down the bank. Quickly pulling my coat over my head I cleared out. Result: a black eye and eight severe talon punctures in my left cheek and side of neck, one dangerously near my left eye. That was my second adventure with an owl when moth-hunting, but the former took place in daylight.

Sugaring is a very profitable and easy method of capturing moths, but I did not take it up until 1930. But perhaps any exceptional experiences in this line will be best dealt with later, when I deal with the various species in their respective order.

During the first years I did very little in the way of rearing specimens, either from collected larvæ or from ova. Nevertheless, I succeeded in rearing a few insects of the following species: the Poplar Hawk-moth, the Puss-moth, the Swallow Prominent, the Coxcomb Prominent, the Fox-moth, the Emperor-moth, and the Early Thorn. Fox-moth larvæ are difficult subjects to rear and bring through to the pupal state. It was rather singular that I was able to rear three insects at my first attempt—two fairly good specimens and one cripple—from half a dozen larvæ, kept through the winter among some dried grass in an ordinary cardboard shoe-box, while most of my succeeding efforts have been complete failures. Of late years I have gone more extensively into the line with varying results. Local larvæ are collected in the day-time, and at night by the aid of a light when the night-feeding larvæ are more easily seen. Since September 1932, when I saw the late Mr J. R. Johnson, Gateshead, beating *Eupithecia* larvæ on to a tray at Boulmer, I have followed the method with a fair measure of success. Unfortunately, collected larvæ frequently turn out to have been stung by ichneumon-flies and are full of their parasitic maggots, while scour, on occasions, proves to be a deadly scourge. There are other dangers that the beginner is apt to overlook, or fails to understand, such as cannibalism and sweating. This was where I tripped and fell on a few occasions. Even after the subjects have passed into the pupal state the chrysalides are liable to be attacked by a fungus, and there is generally a quota of cripples. After all the labour and care spent on the subjects, I have often felt disheartened to see my efforts nullified. But after all, is it not the disappointments in life that make the successes appreciated?

After a visit to Mr Johnson in June 1933, when I got some useful advice about relaxing and other things connected with the work, and saw some insects on his setting-boards and his style of setting and bracing, I set to work to improve on my previous efforts and to replace defective specimens.

As an outpost in a remote district that has long been neglected and with plenty of scope for field-work, I have no regrets, although somewhat late in life, for taking up this branch of Nature Study. Alone I have spent many pleasant and profitable hours in pursuit of the cause—hours that might otherwise have been spent to less purpose. The work has been genial, and as I dipped into the subject it became more enticing and engrossing as a pastime. The pursuit of certain species has often led up to the finding of unlooked-for species and other things of interest, whereby my knowledge of wild life and kindred subjects has been extended. My efforts during the past six years have been rewarded with a gratifying measure of success. The work has also brought me in touch with people of wide experience in the various branches of Natural Science, who have always been most obliging in giving advice and naming anything I had any doubt about. I deem it a pleasure to help and repay kindred spirits who may be in want of certain species that are to be found in Upper Redesdale. In doing so I have also extended my range of friendships.

The shepherds and others in the district who know that I am interested in butterflies and moths have been very obliging in many ways. In summer I am frequently the recipient of a small package containing a caterpillar, cocoon, or insect. Sometimes the insects are damaged and of no use as cabinet specimens. But all the same I am pleased to have them, for one never knows when something of rare interest may turn up—a damaged specimen can be proof for a record—as I will show in due course.

As a record of my work and further experiences I cannot do better than to take the local species in their respective order and give any note of importance relating to the rarer captures and unusual occurrences. In doing so I will follow the order of South's *Butterflies and Moths of the British Isles*.

RHOPALOCERA.

BUTTERFLIES.

The Large White (*Pieris brassicæ*), the Small White (*Pieris rapæ*), and the Green-veined White (*Pieris napi*) are all very common in Upper Redesdale. An occurrence worthy of note

in connection with these species took place in May 1933. About midday on Sunday 21st a flight of white butterflies began to pass Catcleugh; they were flying in a westerly direction. Large Whites were considerably in the majority, Green-veined Whites were well represented, but only odd Small Whites passed. They came up the valley in driblets, and I estimated their speed at about six or seven miles per hour. I had no difficulty in passing them on my cycle. The flight continued all the next day. This invasion was followed by a plague of caterpillars and an exceptional flight of Large Whites in the autumn, and a corresponding plague of caterpillars again followed.

The Orange-tip (*Euchloë cardamines*). On 1st June 1935 I had a male sent up from Rochester, and on the 14th I had the good fortune to take another male on the rockery at Reservoir House. About the same time another male was caught in Rochester village by a schoolboy. These are my only records for the species in Redesdale.

The Small Tortoise-shell (*Vanessa urticæ*). A very common insect in the valley. In 1932, however, I only saw three specimens above Saughenside, three miles east; neither did I see any larvæ in the same area. It is a pleasure, however, to say that the insect has again regained its status in the district.

The Peacock (*Vanessa io*). At midday on 9th September 1939 I saw a female Peacock butterfly in my garden, but did not take it. On the evening of the 16th, Billy Mitchel, the boatman's boy, brought me a male specimen that he had captured sitting on the grass on the reservoir side at Catcleugh boathouse. These also are my only records for the species.

The Painted Lady (*Pyrameis cardui*). Individual insects of this species occasionally appear in the valley. In 1933 I noted specimens on about a dozen occasions. My first specimen was captured in my garden in August 1924, and my latest was sent up to me from Cleughbrae, Rochester, on 27th August 1939.

The Red Admiral (*Pyrameis atlanta*). Some years in September this insect is fairly plentiful in Upper Redesdale. Other years very few or none are seen; 1933 was an exceptional year when they were to be found flying in good numbers all over the moors, and feeding on the heather bloom up to an altitude of over 1600 feet.

The Meadow Brown (*Epinephele janira*). Very scarce about Cattcleugh. Fairly common in Deadwood and at Rochester. In August 1938 I saw exceptional numbers all along the pipeline between Otterburn and Low Leam, West Woodburn.

The Ringlet (*Aphantopus hyperanthus*). In August 1935 a boy brought a butterfly of this species to Mr F. Clegg, schoolmaster at Rochester, who later found it in fair numbers around by Todlaw Mill on the left bank of the Rede. On 26th July 1936 I took two specimens in Deadwood, about two miles west from the Rochester station, but I have never again seen it there.

The Large Heath (*Cænonympha tiphon*). On 27th June 1936 Mr George Nicholson and I went moth-hunting up the Blakehope Burn; on our return journey we were discussing the Large Heath, and in the hope of finding it I led the way over the moss flowe on the Tongue. We had not gone far when a brown butterfly arose and sailed away with the wind. We marked it down; I followed up and succeeded in netting it. To our delight it was the insect we were in quest of. We put up three more and I netted another. As we were in a hurry to meet the 'bus there was no time to make a further search that evening. On 5th July 1936 I went down to Deadwood Flowe, about a mile below the Tongue, where I found it in good numbers. In 1937-38 I again found it equally plentiful at that station, and also individuals over a wider area. In 1939 it was scarce.

The Small Heath (*Cænonympha pamphilus*). Abundant everywhere.

The Small Copper (*Heodes phœas*). On 16th September 1934 I found a damaged specimen sitting on some heather on Babswood. In the summer of 1938 another was captured by a schoolboy at Rochester and sent up to me by Mr Clegg. These are my only records for the insect in Redesdale.

The Common Blue (*Polyommatus icarus*). Very common in Upper Redesdale.

This concludes a meagre list of local butterflies that I have met with up to date.

HETEROCHERA.

MOTHS.

Hawk-moths.

The Poplar Hawk-moth (*Smerinthus populi*). The larvæ of this species are usually found in good numbers, but the perfect insect is only seen on odd occasions.

The Death's-head Hawk-moth (*Acherontia atropos*). On the evening of 7th September 1930 I was told that a large kind of moth, or some other kind of insect, with the "queerest head you ever saw," had been captured the previous day at Cottonshopeburnfoot. I went down and found that it was a Death's-head Hawk-moth minus the head. It was found by the shepherd, crawling over a hay-bogey in the hayshed. He struck it with his cap and, unknowingly, knocked its head off, thus accounting for the markings on the thorax being taken for the head.

Convolvulus Hawk-moth (*Herse (Sphinx) convolvuli*). Some years before I took up the study of moths Mr W. Bell, Low Byrness, the late roadman in Upper Redesdale, let me see two mite-infested specimens of this species that he had found in the course of his duties lying on the roadside. One he found on the English side of Carter Bar. It apparently had been killed by striking against the telegraph wires. The other was found near Cottonshopeburnfoot. In August 1928 I saw one on the wing at Catcleugh Farm garden. I had not my net, and it flew about in a tantalising manner.

The Humming-bird Hawk-moth (*Macroglossa stellatarum*). I have seen the species on about half a dozen occasions. One specimen in my collection was found lying dead in the glass porch at Catcleugh farmhouse by my daughter. On 30th July 1934 I captured one that was hovering over phlox in my garden.

NOTODONTIDEA.

Prominents.

The Sallow Kitten (*Cerura furcula*). On the 1st September 1935 I found a single larva in Yettis Syke from which I had a satisfactory result. I got another on the same bush in 1936,

but it died. In 1937 I chanced on two caterpillars, both fed and spun up but only one reached the perfect state. These are the only occasions that I have come across the species.

The Puss-moth (*Dicranura vinula*). Although the perfect insect is very rarely met with, the large conspicuous-feeding larvæ are frequently plentiful. In 1939 they were very scarce.

The Swallow Prominent (*Pheosia tremula*). For a Redesdale record of this species I must go a little way beyond the dividing-line of Upper and Lower Redesdale. In August 1925 I saw a poplar tree by the side of the pipe-line at Coldtown Burn, near Corsenside, that was almost stripped of foliage by larvæ of this moth. Hundreds of caterpillars lay on the ground beneath the tree and in the stream, while a large number still clung tenaciously to the bare twigs. I brought six home; three I gave away. Eventually four good specimens emerged. Although I have been at least twice past the tree annually when larvæ ought to have been feeding, I have never again seen any sign of *tremula* on it. I have found it sparingly on bushes farther up the burn.

The Lesser Swallow Prominent (*Pheosia dictæoides*). One evening in June 1929 I had the good fortune to find four freshly emerged moths—three males and one crippled female—clinging to the grass stems beneath a birch tree in Yettis Syke. The larvæ are usually to be found in good numbers, but are difficult to rear. Nevertheless I have succeeded in bringing odd specimens through.

The Pebble Prominent (*Notodonta ziczac*). Larvæ generally found in good numbers on the sallows.

The Iron Prominent (*Notodonta dromedarius*). From a number of larvæ taken at various spots in Upper Redesdale in September 1933 I reared a good series of specimens. On other occasions I have not seen more than three or four annually.

The Coxcomb Prominent (*Lophopteryx camelina*). A very common insect about Catcleugh both in the larval and perfect stages. Comes frequently to light.

The Buff-tip (*Phalera bucephala*). On 15th June 1937 a female in good condition was brought to me by Billy Mitchel. He had got it sitting in the veranda of the Angling Club House. This is my only record for the species in Upper Redesdale. However, in August 1937 I found three caterpillars on a small

sallow bush in the Brig Dene, near Corsenside Church. All refused to feed and died.

THYATIRIDÆ.

The Peach-blossom (*Thyatira batis*). In July 1933 I first took this moth at Catcleugh, at sugar. It is scarce, for I have only seen and taken three more at sugar.

The Yellow Horned (*Polyploca flavigornis*). I have occasionally taken specimens sitting on birches in the spring. I have found the larvæ plentiful in Earl Syke. Although I have tried on different occasions to rear them I have only once succeeded in rearing a single specimen.

LASIOCAMPIDEA.

The Pale Oak Eggar (*Thrichiura cratægi*). On the 19th May 1927 I found a single larva on a birch bush in Yettis Syke. It eventually spun up in a small hard cocoon, and the imago emerged in the September. Afterwards I had it named for me as a "Northern Rustic," but I had my doubts. In September 1929 I came across two larvæ of similar size but different in colour and markings. They were feeding on heather, but both died. On 20th July 1932 another similar caterpillar was found on a hawthorn hedge. Unfortunately it proved to be "ichneumoned." No one to whom I described the caterpillars could name them. However, at dusk on the evening of 6th June 1933, when following up a female Fox-moth, I saw a caterpillar on an isolated bunch of heather. After netting the Fox-moth I went back and boxed the caterpillar. It was too dark to do more that night. The following evening I went out and took over twenty larvæ. I sent six to the late Mr J. R. Johnson, Gateshead, with a question mark behind Pale Oak Eggar. There were at least two distinct forms in colour and markings. Mr Johnson let Professor J. W. Heslop Harrison see them, who said that three were definitely *cratægi*, but the others he thought might turn out to be young *quercus*. However, within a fortnight all Mr Johnson's lot had spun up in the same form. My own took over three weeks to feed up. When the first imago from my own batch emerged I saw that the 1927 moth was of the same species. So variable are

the larval forms of this species that anyone unacquainted with them can be pardoned for making a mistake. In June the larvæ develop rapidly, the second and third weeks being the best period for finding them. They feed freely in bright sunshine.

The December-moth (*Pæcilocampa populi*). I have only two records for the December-moth in Upper Redesdale. The first, a female caught in Reservoir House, Catcleugh, 3rd November 1937. The other I got as a larva beginning to spin up in an outhouse in August 1938. It emerged in November.

The Oak Eggar (*Lasiocampa quercus*). My first record for this moth in Redesdale was a female brought to me by the shepherd of Black Blakehope, who had found it in Blakehope Nick on 11th July 1931. Since then I have reared odd specimens. Var. *callunaæ* (the Northern Eggar) is very common on the moors. At the time of writing I have over a score of Eggar cocoons. The caterpillars were all gathered on the farm of Blakehopeburnhaugh, but over a wide area.

The Fox-moth (*Macrothylacia rubi*). This moth is abundant in Upper Redesdale both in the larval and perfect forms. The larvæ, as I have already said, are difficult to rear, but they are also difficult subjects to handle. Unless great care is exercised when handling, the hairs on the creature's back will cause considerable irritation, similar to that of the stinging nettle, between the fingers. The males fly in daylight over bent and heath. When searching for females their flight is rapid and erratic, and consequently they are not easy to capture. Patience is a virtue in this respect. From experience I have found that the males fly in a sort of circuit, returning time and again in practically the same course. It is best to take up a position and be ready for their return. The chances are you will hear the buzz of the wings before you see the insect. When in the net they are desperate characters. From two hours to one hour before sunset is the best time for the work. The females come out shortly afterwards. The males can be attracted with oil of aniseed.

SATURNIIDÆ.

The Emperor-moth (*Saturnia pavonia*). This beautiful moth is abundant in Upper Redesdale. The equally beautiful

caterpillars feed on many kinds of plants. I have found them on meadow-sweet (*Spiræaulmaria*) and heath bedstraw (*Galium saxatile*). An assemblage of males in May is a very interesting sight. A female was seen on Babswood on 28th June 1935. A very late date.

DREPANIDÆ.

The Pebble Hook-tip (*Drepana falcataria*). Mr Clegg took two or three specimens of this moth up the Wynd Burn in 1935. My first capture of the insect was taken as a larva, at Rochester, on the 31st August 1935. In August 1936 I got a single larva on a birch bush in Yettis Syke. On 18th June 1939 I had the good fortune to capture two fresh females in Deadwood.

ARCTIIDÆ.

Tiger-moths.

The White Ermine (*Spilosoma menthastrum*). A female taken at Cattcleugh on 27th June 1936 is my only record for the species in Redesdale. I found it sitting on grass at the bottom of a fence post to which sugar had been applied.

The Muslin-moth (*Diaphora mendica*). Mr Clegg took a specimen in his garden at Rochester in June 1936. In June 1938 he got another and sent it up to me.

The Ruby Tiger (*Phragmatobia fuliginosa*). Is a very common moth in Redesdale. The small hairy larvæ are prone to crawl across the road in autumn.

The Wood Tiger (*Parasemia plantaginis*). Is also very plentiful over a wide area in Upper Redesdale. On the afternoon of 27th June 1936 Mr Geo. Nicholson and I found it in exceptional numbers in the old fir wood at Blakehopeburn-haugh. I have seen it in fair numbers on the summit of Ellis Craig.

The Clouded Buff (*Diacrisia sanio*). I never had the luck to come across this moth until July 1934, when I took a worn specimen among some heather on Babswood. This is another moth that Mr G. Nicholson and I found in good numbers up the Blakehope Burn. A week later I found it equally plentiful in Deadwood, where there was an exceptional show of Common Yellow Cow-wheat (*Melampyrum pratense*).

The Garden Tiger (*Arctia caia*). When inspecting the pipe-line on 16th August 1938 I found a Garden Tiger caterpillar crawling over the road at Elishaw, eight miles below Catcleugh. I saw another lying dead on the road near Greenchesters, a mile farther down the valley, this being the only evidence I have seen of the species in Redesdale.

LITHOSIINÆ.

Footman-moths.

Although I have a few examples of this subfamily the following is the only species I have classified:—

The Muslin (*Nudaria mundana*). A moth that is fairly plentiful some years, when it is to be found sitting on the middle of the road. On the evening of 13th July 1931 I found it in considerable numbers sitting on the north wall of Corsenside Church.

NOCTUIDÆ.

ACRONYCTINÆ.

The Miller (*Acronycta leporina*). On 31st August 1935 I beat a caterpillar from an alder tree on Todlaw, Rochester, but it died. In September 1937 I beat another from a birch in Yettis Syke. It emerged successfully in June 1938.

The Poplar Grey (*Acronycta megacephala*). A single larva was found in August 1933 on the same tree that the Swallow Prominent larvæ were seen on in abnormal numbers some years previous.

The Grey Dagger (*Acronycta psi*). I usually see a few at sugar in the end of June and early July.

The Light Knot Grass (*Acronycta menyanthidis*). I had not seen this species in Redesdale until 27th June 1936, when Mr G. Nicholson got a male sitting on a tree trunk at Blakehopeburnhaugh. On 29th May 1939 I got two females sitting on heather up the Blakehope Burn.

The Knot Grass (*Acronycta rumicis*). In the early days of my collecting I took odd specimens at Wild Cherry blooms, but they all got destroyed by mould and mites. The only Redesdale specimen in my collection was got as a caterpillar by my granddaughters.

The Coronet (*Craniophora ligustri*). My only specimen was found as a pupa while weeding on the rockery at Reservoir House.

TRIFINÆ.

The Heart and Dart (*Agrotis exclamationis*). Usually seen in good numbers in June. Comes freely to sugar.

The Dark Sword Grass (*Agrotis ypsilon*). I had no record of this moth until 27th September 1934, when I took one at sugar, and another the following night. A third specimen was taken on 7th October 1935. I did not see the species again until early October 1938, when it appeared in good numbers.

The True Lover's Knot (*Agrotis strigula*). Plentiful at heather bloom and also at Marsh Thistle flowers at dusk.

The Pearly Underwing (*Agrotis saucia*). My only records for this species are 8th and 10th October 1938, when I took one each evening at sugar.

The Northern Rustic (*Agrotis lucernea*). Another rare insect in the district. I took a single specimen at a sugared Sweet William in my garden on the 19th July 1934. One Saturday night in the middle of August 1935 Mr F. W. Gardiner, Newcastle, when he came to Catcleugh to get a series of Filigrammaria, captured one at heather bloom. These are the only instances that I have met with the species.

The Double Dart (*Noctua augur*). Frequently very common at sugar.

The Autumnal Rustic (*Noctua glareosa*). Usually seen in good numbers at heather bloom after dark.

The Neglected, or Grey Rustic (*Noctua castanea*). Another moth with similar habits and status as the previous species. On the evening of 8th August 1936, when sugaring in the fir wood at Blakehopeburnhaugh, both *castanea* and *glareosa* came freely to the sugar patches. On one patch four specimens of *castanea* were sitting together.

The Dotted Clay (*Noctua baja*). A common moth that visits the flowers of the Marsh Thistle at dusk.

The Setaceous Hebrew Character (*Noctua c-nigrum*). I have only taken one moth of this species at Catcleugh. It was taken at sugar on 9th July 1938. On the 6th July 1939 I saw another at sugar, but failed to box it.

The Purple Clay (*Noctua brunnea*), the Ingrailed Clay (*Noctua primulae*), the Six-striped Rustic (*Noctua umbrosa*), the Square-spot Rustic (*Noctua xanthographa*), and the Flame Shoulder (*Noctua plecta*). All the foregoing species are common in Upper Redesdale and visit the blooms of the Marsh Thistle at dusk, especially if a bit of sugar has been previously applied.

The Lesser Yellow Underwing (*Triphæna comes*). A small number are usually seen yearly in my garden and at heather bloom.

The Large Yellow Underwing (*Triphæna pronuba*). Very common. It is very interesting to watch a female of this species depositing her ova on rushes. The moth hangs head downwards and works spirally down around the stalk of the rush.

The Lesser Broad-border Underwing (*Triphæna ianthina*). Occurs sparingly at sugar and heather bloom.

The Green Arches (*Eurois prasina*). I took a single specimen on a sugared thistle on the night of 6th July 1933, and three others at sugar on different dates in July 1934. These are the only examples of the species I have seen in the district.

The Great Brocade (*Eurois occulta*). This rare moth was taken under exceptional circumstances on the 21st August 1931. The evening was dull and sultry, and shortly before dark I went to a favourite beat and sugared a considerable number of thistle blooms. Before I had finished with this work a good variety of dusk-flying moths were already on the wing, auguring well, as I thought, for a successful evening. Returning to where I had left my other equipment, I lighted my lamp, but ere I could get into business a heavy thunderstorm suddenly broke. Inwardly cursing my ill-luck, I was reluctantly compelled to run to shelter. Even in the downpour the moths were flying around the sugared thistle-heads as I hurriedly passed them. On approaching the road I saw an unusual moth settle on a telegraph-pole and scooped it off in passing. Grasping the bag of the net to prevent the moth from escaping, I took shelter beneath an overhanging tree on the roadside, where I stood for about half an hour. On reaching home I was agreeably surprised to find that I had captured a male Great Brocade—a bit of good luck after all.

The Cabbage-moth (*Barathra brassicæ*). I have only two

moths of this species, the product of two pupæ found in the course of weeding operations in the garden. Mr Clegg has taken the moth in his garden at Rochester.

Bright-line Brown-eye (*Mamestra oleracea*). Although this moth has come regularly to sugar in early July, I never saw it but sparingly until July 1939, when it came to sugar in fair numbers.

Pale Shouldered Brocade (*Mamestra thalassina*). Odd insects of this species are seen at remote intervals.

The Broom-moth (*Mamestra pisi*). Comes freely to sugar in summer, but I have frequently seen it in late September. I have collected the larvæ when they were feeding at night on bracken and rushes.

The Glaucous Shears (*Mamestra glauca*). I took a few specimens at Wild Cherry bloom in late May some years ago, but, unfortunately, mites wrought havoc among them, and although I have been on the lookout I have never again been able to get specimens to replace the mutilated ones I have.

The Shears (*Mamestra dentina*). I have only two records of this moth. The first, a damaged specimen, was brought to me by Billy Mitchel in June 1937. He had captured it at Catcleugh Boathouse. The second I took at sugar, at Catcleugh, on 7th July 1939.

The Lychais (*Dianthecia capsincola*) and the Campion (*Dianthecia cucubali*). Both these species are very rare about Catcleugh. Single specimens have only been noted on very remote occasions. No doubt due to the fact that with the exception of *floscuculi* (Ragged Robin), and that sparingly, there are no other Campions in the district.

Feathered Gothic (*Tholera popularis*). In the early days of my collecting I disturbed one when cutting grass among the shrubs on the lawn at Reservoir House. Although a damaged specimen, it is my only Redesdale representative.

Antler-moth (*Cerapteryx graminis*). A very common insect and flies freely in day-time. I must now revert to the Saturday night in August 1926 when I first went moth-hunting with a light. I was working over a patch of heather on the south side of the reservoir. Two of the Chatlehope shepherds saw the light, and wondering what was taking place came down to see. Both were interested, as they had never seen such a

number and variety of moths on the wing at the same time and over so small an area. Neither had I. The Chevron and the July Highflier were most numerous. Adam Scott drew my attention to a couple of moths in-cop. They were a male Antler and a female July Highflier. I mentioned the occurrence to Professor J. W. Heslop Harrison, who told me there would not be any result as the genera were too far apart.

The Dark Brocade (*Eumichitis adusta*). Some years pretty common at Catcleugh. Comes freely to sugar, but inclined to be skittish when the light falls on the sugar patch.

The Minor Shoulder-knot (*Bombycia viminalis*). I have only taken this moth on two occasions, when it was flying at night. The larvæ, however, are usually fairly plentiful on the sallows and willows in May.

Haworth's Minor (*Celæna haworthii*). Generally distributed over a wide area in Upper Redesdale, where it flies in good numbers over the heather patches at dusk.

The Confused (*Hama furva*). I was unaware that I had a specimen of this species until a short time ago, when I was transferring some Dusky Brocades from one case to another. On close examination I discovered one Confused among them. Seeing that I have never taken the Dusky Brocade elsewhere than Catcleugh, I must have picked it off a sugar patch here. Owing to its similarity to *A. gemina* the possibilities are that I have overlooked it.

The Dusky Brocade (*Apamea gemina*). Usually very common at rhododendron blooms and sugar. The var. *remissa* is of common occurrence.

The Rustic Shoulder-knot (*Apamea basilinea*). In June 1931 this moth appeared in considerable numbers at Catcleugh, but it has never again been much in evidence.

The Common Rustic (*Apamea secalis*). Common on rushes after dusk. There are several forms of this moth.

The Marbled Minor (*Miana strigilis*), the Middle-barred Minor (*Miana fasciuncula*), and the Rosy Minor (*Miana literosa*) are all to be found on the heaths.

The Clouded-bordered Brindle (*Xylophasia rurea*). Abundant at rhododendron blooms and sugar. The var. *alopecurus* is about as plentiful as the typical form.

The Light Arches (*Xylophasia lithoxylea*). A single, rather

worn specimen, taken at sugar in the reservoir grounds on the 6th July 1935, is the only record I have for this species in the valley.

The Dark Arches (*Xylophasia monoglypha*). Abundant from the end of June until October. It is, in fact, a nuisance at sugar.

The Black Rustic (*Aporophyla nigra*). On the 9th September 1933 I made my first capture of this species, and a second was taken on the 19th. During the following autumn it came to sugar in fair numbers. On 1st October I took six—two being females, which I sent to the late Mr J. R. Johnson for experimental purposes. He had a good batch of ova from them, but unfortunately, owing to his health, he was unable to carry the experiment through. A few specimens are seen annually.

The Grey Chi (*Polia chi*). Common about drystone walls in the autumn.

The Green Brindled Crescent (*Miselia oxyacanthæ*). A moth that usually turns up at sugar in fair numbers in late September and early October.

The Small Angle Shades (*Euplexia pucipara*). Never plentiful. I cannot remember ever seeing more than half a dozen of an evening at sugar. Usually seen in late June and July.

The Angle Shades (*Phlogophora meticulosa*). A pretty moth that comes freely to sugar in the autumn. In October 1934 it appeared in exceptional numbers. On the 11th, on one round of the sugar patches I counted forty-nine. That evening I took a good series for the late Mr Johnson. It also comes to sallow bloom in the spring.

The Old Lady (*Mania maura*). I have only once seen this moth in Redesdale, when I took a worn specimen at Cattcleugh on 7th August 1936. It was taken at sugar.

The Gothic (*Nænia typica*). This moth has only been seen on three occasions. The first was taken on a sugared Marsh Thistle on the Bywash side on the evening of 6th July 1933. Another was taken in the same locality the following week. I did not see it again until the 7th July 1939, when one was taken at sugar.

The Ear-moth (*Hydræcia nictitans*). Very common wherever Marsh Thistles and ragworts occur.

The Rosy Rustic (*Hydræcia micacea*). With one exception

the series I have of this species were all taken by the aid of a light when they were sitting on rush stems after dusk. My first capture was in 1933. I took one at sugar in August 1939.

The Small Wainscot (*Meliana flammea*). Fairly common.

The Common Wainscot (*Leucania pallens*). I have only taken one specimen of this moth in Redesdale.

The Smoky Wainscot (*Leucania impura*). Very common.

The Brown-line Bright-eye (*Leucania conigera*). Until July 1939 I had considered this species rather scarce about Catcleugh, but on the few occasions that sugar was wasted in the summer of 1939 it was pretty much in evidence.

The Treble Lines (*Meristis trigrammica*). This species I had not noted in Redesdale until I took a worn male on Deadwood Flowe, on 15th July 1939, when hunting for *C. typhon*. Two others were put up but not captured. On the evening of 25th August 1939 a good-conditioned female was taken at heather bloom, on Babswood.

The Pale Mottled Willow (*Caradrina quadripunctata*). A very common moth in haycocks.

The Mouse (*Amphipyra tragopogonis*). Odd moths of this species turn up now and again.

The Pine Beauty (*Panolis piniperda*). I have only seen this moth on five occasions. The first was found sitting on a tree trunk in the old fir wood on Lumsden Law. The others were taken at sallow catkins on different dates. I have only found one caterpillar, but failed to rear it.

The Red Chestnut (*Pachnobia rubricosa*). Abundant at the sallow catkins in spring.

The Hebrew Character (*Tæniocampa gothica*). Another abundant species. There is an excellent variety, both in colour and markings.

The Small Quaker (*Tæniocampa pulverulenta*). I have only taken two specimens of this moth at Catcleugh.

The Common Quaker (*Tæniocampa stabilis*) and the Clouded Drab (*Tæniocampa incerta*) are both common in Upper Redesdale.

The Twin-spotted Quaker (*Tæniocampa munda*), the Northern Drab (*Tæniocampa opima*), and the Powdered Quaker (*Tæniocampa gracilis*) are all rare moths about Catcleugh. In April

1934 I took a single female specimen each of *munda* and *gracilis*, which I sent to Professor J. W. Heslop Harrison, who named them. Three male specimens of *opima* were taken in 1933-34-35.

The Red-line Quaker (*Amathes lota*) and the Yellow-line Quaker (*Amathes macilenta*). Odd specimens of these two species are usually seen at sugar in the autumn.

The Brick (*Amathes circellaris*). Abundant, and comes freely to sugar.

The Pink-barred Sallow (*Xanthia lutea*). Some years fairly common at heather bloom, it also has a habit of sitting on sallows after dusk. One night in August 1934 I shook down seventeen of this species from a small sallow bush on the reservoir side. Some fell into the water and were captured by trout.

The Sallow (*Xanthia fulvago*). Not so plentiful as the preceding species, but with similar habits at night. In August 1934 I took a specimen of the var. *flavescens*.

The Chestnut (*Orrhodia vaccinii*). Three examples of this species have been taken on separate occasions at sugar at Cattcleugh. Two were taken at sugar one night in October 1938 in the old fir wood at Blakehopeburnhaugh.

The Satellite (*Eupsilia satellita*). Moths of this species are usually seen at sugar in the autumn and at the sallow catkins in spring.

The Sword Grass (*Calocampa exoleta*). Of late years—with the exception of the present, 1939, when lighting restrictions forbid the use of naked lights—this species has been seen in good numbers in late September and October.

The Red Sword-grass (*Calocampa vetusta*). This beautiful moth is even better established about Cattcleugh than the preceding. Its autumn and spring habits are similar.

The Shark (*Cucullia umbratica*). I have only seen one moth of this species in Redesdale, and had the good fortune to net when hovering over rhododendron blooms at dusk on 26th June 1936.

The Small Purple Barred (*Prothymnia viridaria*). This small moth has been seen and taken at various places in Upper Redesdale.

GONOPTERINÆ.

The Herald (*Scoliopteryx libatrix*). Until October 1938 I had looked on this moth as rather scarce in the district, but in that month it was quite a common occurrence to see upwards of a score on the sugar patches at nights. I have had several brought me in September 1939.

QUADRIFINÆ.

The Golden Plusia (*Plusia moneta*). In early July 1934 a Delphinium in the garden at Blakehopeburnhaugh was infested by caterpillars. The leaves were spun together, and the plant was a mass of webs. Unfortunately, when I heard about it the plant had been cut down and thrown into the river. From the minute descriptions given me by an eyewitness I concluded that they were the larvæ of *moneta*. However, Mr Clegg, Rochester, netted a specimen of *moneta* in his garden in June 1935, which gives the species a definite Upper Redesdale status.

The Burnished Brass (*Plusia chrysitis*). Some years abundant at thistles in July and August.

The Gold Spangle (*Plusia bractea*). Scarce; with the exception of two hovering over a Marsh Thistle one night in July 1934, the remote occurrences have been single specimens. I have not seen another since the said night, despite the fact that I went to the same beat on several successive nights.

The Gold Spot (*Plusia festucæ*). Some seasons this moth appears in good numbers and visits the Marsh Thistle at dusk. In 1935 only one moth of the species was seen, but in 1936 there was a direct contrast, when it was in exceptional numbers. One night in July that year I saw a goodly number hovering over sage in Mr Clegg's garden.

The Plain Golden Y (*Plusia iota*) and the Beautiful Y (*Plusia pulchrina*) are both very common species about Catcleugh Allars.

The Silver Y (*Plusia gamma*). This species is of very uncertain appearance. Some years it is fairly common, in other years there is a marked scarcity, i.e. 1935–37–38; 1939 showed an improvement. But it was the middle of September ere one was noted. During the last week in June 1936 there was a

great influx of migrant Silver Y's, and as I have hitherto mentioned they were seen in scores hovering over rhododendron blooms. Moths were regularly seen throughout the summer, and the autumn brood was also abundant.

The Scarce Silver Y (*Plusia interrogationis*). In July and August this moth is usually seen at thistle blooms and on heather bloom in fair numbers.

The Spectacle (*Abrostola tripartita*). Very common on nettles both in the larval and perfect forms.

The Mother Shipton (*Euclidia mi*). A very common moth in Redesdale.

HYPENINÆ.

The Snout (*Hypena proboscidalis*). Scarce in Upper Redesdale. The first time I saw it was on the roadside at Elishaw in the early days of my collecting. Since that time I have taken a specimen in Catcleugh Allars, and another at some nettles on the roadside near Catcleugh Farm.

GEOMETRIDÆ.

Subfamily GEOMETRINÆ.

The Large Emerald (*Geometra papilionaria*). A male specimen of this pretty insect was sent to me by a lad at Otterburn Hall on 10th July 1934, being the first time I had met with the species in Redesdale. On 15th July 1935 I received a damaged male that had been picked up in Deadwood the previous morning. The following afternoon, when Mr Clegg and I were moth-hunting around Todlaw, in front of Rochester village, I beat another male from off an alder bush. It was a pretty sight as it fluttered down. When fishing in the Wynd Burn, on 17th July 1937, I had the good fortune to take another male.

Subfamily ACIDALIINÆ.

The Smoky Wave (*Acidalia fumata*). Another moth that was seen in good numbers in the old fir wood at Blakehopeburnhaugh on 27th June 1936. It was still plentiful on the 5th July. It was very plentiful on Deadwood Flowe in July 1939.

Subfamily HYDRIOMENINÆ.

Shaded Broad-bar (*Ortholitha limitata*). Scarce about Catcleugh.

Chimney-sweeper (*Odezia atrata*). A sun-loving insect that is everywhere abundant in the valley.

The Treble-bar (*Anaitis plagiata*). On the morning of 6th August 1922 I disturbed a moth among some St John's Wort, on the reservoir side, at Ramshape, and chased it for over a hundred yards up the road before I caught it with my cap. The following morning when fishing up the Spithope Burn another was disturbed but lost sight of among the bracken. I was afterwards to learn that they were Treble-bars. The Ramshape moth is the oldest specimen of my own taking in my collection—a sort of hide-my-head-under-my-wing specimen. On 2nd August 1939 Mr Clegg sent up a specimen of this species that he had captured up the Wynd Burn. These are all that I have ever seen of the species in Upper Redesdale.

Manchester Treble-bar (*Carsia paludata*). The first time I saw this pretty little moth in its natural haunts was on 18th August 1935. That afternoon I had gone down to Deadwood to look for Blandina in the likely glades of that natural wood, but after an extensive search I failed to find the object of my quest. Incidentally I may say I have not yet seen it there. When going through among some stunted whortleberry bushes a strange moth arose at my feet and flew among the trees on the margin of the flowe. Upon beating around, another got up and was netted and identified. Four more were put up, but owing to the disagreeable wind I only succeeded in netting one. The three following years it was found in good numbers, but these were far surpassed in 1939, when I found it over a much wider area on the farm of Blakehopeburnhaugh.

The Streak (*Chesias spartiata*). A few moths of this species have been taken on broom bushes in the autumn. Six were taken one night in 1937, which were sent to a friend in Scarborough who had not a specimen of the species.

The Early Tooth-striped (*Lobophora carpinata*). Four single specimens have been taken at remote intervals. The first was found among the rocks on Byrness Hill.

Winter-moth (*Cheimatobia brumata*) and the Northern

Winter-moth (*Cheimatobia boreata*). Both these species are abundant in the woods from the middle of October until well into December.

The Tissue (*Triphosa dubitata*). My first record for this moth was a male that came to light on the bridge over the Bywash in April 1930. I took another at sallow bloom the following April and a damaged specimen on heather in September 1931. I never saw another of the species until 27th September 1939, when I had a damaged specimen given me which had been captured in the whin quarry on Lumsden Law. On the 29th the same man brought me another that had also been captured in the quarry. Save for a broken antennæ, this moth was otherwise in good condition.

The Chevron (*Lygris testata*). Usually abundant at heather bloom after dark.

Northern Spinach (*Lygris populata*). Another species that is abundant on the moors.

The Spinach (*Lygris associata*). In early July 1938 my granddaughters brought me a caterpillar that was beginning to spin up. They had found it on a black-currant bush, and unknown to me had been feeding it for some time. When it emerged in August I was agreeably surprised to find that it was a Spinach. I had not seen the species in Redesdale.

Barred Straw (*Cidaria pyraliata*). Very common all over the district.

Barred Yellow (*Cidaria fulvata*). A moth taken at Reservoir Cottages in July 1928 is the only representative of the species that I have seen in Redesdale.

Broken-barred Carpet (*Cidaria corylata*). Some years this moth occurs in fair numbers in the old wood on Babswood. It has a habit of sitting on the tree trunks, usually about six to eight feet above the ground. Of late years it has extended its range into the reservoir woods and grounds.

Common Marbled Carpet (*Cidaria truncata*) and the Dark Marbled Carpet (*Cidaria immanata*). Both forms are very common.

Red-green Carpet (*Cidaria siterata*). A few moths of this species are usually seen at nights when going around the sugar patches in the autumn, and also at the sallows in the spring.

Autumn Green Carpet (*Cidaria miata*). More plentiful than

the preceding species, with similar habits. It visits sugar freely in autumn.

Grey Pine Carpet (*Thera obeliscata*). Some years fairly plentiful towards the end of June and in the autumn; 1933 was an exceptional year, when there was an abundance of insects. The var. *T. variata* also occurs.

Pine Carpet (*Thera firmata*). Much scarcer than the preceding.

Water Carpet (*Lampropteryx suffumata*). Fairly common about Cattcleugh. The var. *piceata* is sometimes seen.

Red Carpet (*Coremia munitata*). Some years this species is seen in good numbers in the Allars.

Red Twin-spot (*Coremia ferrugata*). Well distributed in Upper Redesdale.

Flame Carpet (*Coremia designata*). Never numerous, but a fair number can be dislodged by beating the under branches of the spruce-fir trees around the margins of the woods.

Green Carpet (*Amæbe viridaria*). Everywhere abundant.

Striped Twin-spot Carpet (*Malenydris salicata*). I have seen this moth in good numbers among the rocks above Sam's Well, at the head of Blakehope Burn, but only on odd occasions have I seen specimens elsewhere in the valley.

Mottled Grey (*Malenydris multistrigaria*). In April I have on different occasions seen this species in considerable numbers sitting on the wire-netting on the fence around the Bywash Strip.

Twin-spot Carpet (*Malenydris didymata*). Another abundant species. I once saw it in the end of April.

November-moth (*Oporabia dilutata*) and the Autumnal-moth (*Oporabia autumnata*). Both species sometimes occur in good numbers.

Small Autumnal Carpet (*Oporabia filigrammaria*). In the middle of August there is generally a good show of this species on the heather. The caterpillars are to be found in June.

The Welsh Wave (*Venusia cambrica*). Another species that is generally fairly common in Upper Redesdale. I have seen it at various spots, but the old fir wood on Babswood is by far the best station.

Grey Mountain Carpet (*Entephria cæsiata*). A common insect in the old woods and among the rocks.

Silver-ground Carpet (*Xanthorhoe montanata*). Everywhere abundant.

Garden Carpet (*Xanthorhoe fluctuata*). Frequently met with in summer and have taken it at sugar in the autumn.

Common Carpet (*Xanthorhoe sociata*). Although I have on occasions found the Common Carpet in fair numbers in the upper reaches of the Jed, I have never seen it on the wing in Redesdale. A specimen caught at Byrness by the school-children in June 1934 is my only Redesdale record.

Small Argent and Sable (*Xanthorhoe tristata*). Generally abundant everywhere in the district.

The Purple Bar (*Mesoleuca ocellata*) and the Blue-bordered Carpet (*Mesoleuca bicolorata*). Both these species are usually seen in fair numbers.

Small Rivulet (*Perizoma alchemillata*). I have never seen this moth in the upper reaches of the Rede, but have taken it in Brig Dene, near Corsenside, on odd occasions.

Grass Rivulet (*Perizoma albulata*). Another insect that I have seen little of in Redesdale. Took a single specimen in June 1930 at Cattcleugh, but did not see another until 1937. It was seen again in 1938.

Yellow Shell (*Camptogramma bilineata*). Scarce in Upper Redesdale.

July Highflier (*Hydriomena furcata*), May Highflier (*Hydriomena impluviata*). Both these species are abundant in their respective seasons. In mid-August, when the heather is in bloom, the flight of the former is at the peak. The latter is in full flight in early June.

Ruddy Highflier (*Hydriomena ruberata*). Not so well distributed as the two afore-mentioned species. Its distribution is confined to the sallows in a few ravines. I have tried to rear it from larvæ collected in October, but found that they are inclined to cannibalism.

The Streamer (*Anticlea nigrofasciaria*). Took single specimens of this moth in each of the following years, 1931-32-34-35, being the only occasions that I have seen the species.

Foxglove Pug (*Eupithecia pulchellata*). The first time I saw this moth in Upper Redesdale it was a worn specimen in the old wood on Babswood. That was in June 1933, and I later found some larvæ in my garden, from which I reared a series. The

following summer it appeared in fair numbers at the Foxgloves on the rockery at Reservoir House.

Thyme Pug (*Eupithecia distinctaria*). Netted when hovering over Wild Thyme flowers in the cottage garden and on the reservoir embankment.

Currant Pug (*Eupithecia assimilata*). Also found in the gardens at the cottages.

Ling Pug (*Eupithecia goossensiata*) and the Common Pug (*Eupithecia vulgata*). Both species occur on the heaths and in the woods.

Larch Pug (*Eupithecia lariciata*). Have taken a few insects of this species in the young woods.

Satyr Pug (*Eupithecia satyrata*). Usually seen on the heaths in the end of May and throughout June.

Shaded Pug (*Eupithecia scabiosata*). One evening in early July 1935, when coming down the hill from Babswoodhead, a strange pug arose from among some rough grass, which was promptly netted. I had not seen one like it before nor since. However, it corresponds in detail to the figure of the Shaded Pug in South's *Moths of the British Isles*.

Narrow-winged Pug (*Eupithecia nanata*). Very common on the heather.

Double-striped Pug (*Eupithecia pumilata*). Frequently met with in the reservoir grounds.

Cloaked Pug (*Eupithecia togata*). On the evening of 10th July 1932 I beat a male specimen from the lower branches of a spruce fir in the Bywash Strip. According to Bolam in "The Lepidoptera of Northumberland and the Eastern Borders," *B.N.C. Transactions*, vol. xxvi, part iii, it had not then been recorded from Northumberland. Another male was taken about a week later. On 27th June 1933 a female was captured near the spot where the first was taken. She was put into a match-box where she deposited nine ova. I would have sent them direct to Mr Johnson, but he was away from home at the time. I put the box into a glass-topped box, and when I looked on the 8th July the larvæ had emerged and, unfortunately, were all dead. Despite a diligent search I have never found any spruce cones that have been bored by the larvæ nor have I again seen another fly.

BOARMIINÆ.

The Magpie (*Abraxas grossulariata*). Strange though it may seem, I have only once seen any sign at Catcleugh of this common species, that being on 30th July 1935, when a male came to my light when looking around some sugar patches in the shrubbery. Some years previous I found a single larva on some blackthorn at Greenchesters. It is plentiful at Rochester, where Mr Clegg takes it in his garden.

Common White Wave (*Cabera pusaria*). A very common insect all over the district.

Barred Red (*Elloptia prosapiaria*) and the Light Emerald (*Metrocampa margaritaria*). Both these species are plentiful in the old woods.

Canary-shouldered Thorn (*Ennomos alniaria*). On the morning of 3rd October 1937 a male was found hanging in a spider's web on the Cotoneaster around one of my windows, a second was taken at the lighted window on the evening of 24th September 1938, and another was found sitting on a window-sill at Reservoir House two days later. These are the only records I have for the species.

Early Thorn (*Selenia bilunaria*). Frequently found sitting on the netted fences around the woods. The larvæ of the Early Thorn were the first loopers I succeeded in rearing.

Scalloped Hazel (*Gonodontis bidentata*). Common in the perfect state, and there is also an abundant supply of larvæ to be found feeding, in autumn, on the *Cotoneaster microphylla* growing on the walls of Reservoir Cottages.

Feathered Thorn (*Himera pennaria*). On the night of 18th October 1931 a shepherd brought me a damaged specimen of this species. It came to a motor-cycle light at Catcleugh farm and was alive when received. It had been captured with little trouble, but some of the curious lads present wished to have a look at it. When the match-box was opened it escaped and had to be recaptured. It is a male specimen and is my only record for the valley.

Scalloped Oak (*Crocallis elinguaria*). When looking around some sugar patches on the tree trunks in the old wood at Blakehopeburnhaugh, on the evening of 8th August 1936, I

saw a female of this species sitting on some Whortleberry and had no difficulty in boxing her. This also is my sole record for the species in Redesdale.

Swallow-tailed Moth (*Ourapteryx sambucaria*). One night in the summer of 1923, or perchance 1924, when working in my garden I disturbed a Swallow-tailed Moth, and followed it out of the garden on to the road, where a swallow came along and took it before I could overtake it. I have never seen another.

The Brimstone (*Opisthograptis luteolata*). Everywhere abundant in Upper Redesdale.

Tawny-barred Angle (*Semiothisa liturata*). I took my first specimen of this species on 9th July 1934. I found it sitting among some rock plants on the rockery at Ramshope House. The following summer Mr Clegg took several on the wooded moorland on the south bank of the Rede at Netherhouses. I did not see it again until June 1937, when I took three one evening in the Bywash Strip.

Scarce Umber (*Hybernia leucophaearia*). This species cannot be said to be scarce about Catcleugh. The sluggish males are usually seen in good numbers after dusk, sitting on spruce and birch twigs.

Dotted Border (*Hybernia marginaria*). Generally abundant in April.

Mottled Umber (*Hybernia defoliaria*). Scarce. I have only met with occasional moths of this species in the old fir wood on Babswood, and I have only once found a caterpillar at Catcleugh.

Pale Brindled Beauty (*Phigalia pedaria*). This moth sometimes appears in good numbers in February. I had a fresh male brought me one Christmas Eve. It was found in the farmhouse at Catcleugh.

Peppered Moth (*Pachys betularia*). Two caterpillars were found on a small birch bush in September 1929. Both duly spun up, and eventually one male emerged in the spring. I never saw any further evidence of the species until I found a limp male on the evening of 14th June 1934. Mr Clegg has a male specimen from a larva he found in the autumn of 1935. In September 1937 I found a caterpillar, which resulted in another male specimen.

Common Heath (*Ematurga atomaria*) and the Bordered

White (*Bupalus piniaria*). Both common in Upper Redesdale. The former on the heather and the latter in the woods.

The V-moth (*Thamnonoma wauaria*). This moth was first taken on 17th August 1931, and I have not seen passing half a score since that date.

Brown Silver-line (*Lozogramma petraria*). I never noticed this moth in Redesdale until 28th May 1939, when I netted one among bracken above Deadwood Kirk. On the evening of the 30th two were disturbed up Blakehope Burn, but only one was captured.

Latticed Heath (*Chiasmia clathrata*). On the evening of 4th June 1933 I found this species in hundreds on the south side of the Bywash Strip, being the first time I had seen it in the valley. I beat them from the overhanging branches on the outside of the wood and from the heather. I was over the same ground two nights previous, but did not see an insect of the species. On the morning of the 4th I had found it equally as plentiful on the slopes of the railway cutting where the railway crosses the road at the entrance to Old Melrose, north of Newtown St Boswells. The question arises: "Were the moths at these two stations batches that had broken off from a large migrating wave?" It has been very thinly represented since, only units being seen.

HEPIALIDÆ.

Ghost Moth (*Hepialus humuli*), Orange Swift (*Hepialus sylvina*), Map-winged Swift (*Hepialus hecta*), and the Common Swift (*Hepialus lupulinus*). Four very common species in Upper Redesdale.

The foregoing list of moths does not exhaust the number of species I have found in Upper Redesdale. In some instances identification is still a difficult matter, and more so when lepidopterists of longer and wider experience are uncertain. Moths about which I have any doubts have been omitted. I have upwards of a hundred species of Micro-lepidoptera, etc., all locally taken, that I have not yet got classified and named. Not having any literature dealing with these intricate groups, I have only been able to identify a very small percentage.

Among the few that I have classified are the Small Magpie, taken by a schoolboy at Rochester, Garden Pebble, Fulvous Pearl, White Brindled-moth, Bentley's Bell-moth, Notch Wing Bell-moth, and the Small Ermine-moth. The Hackberry trees, on the banks of the Rede, down Rochester way, are yearly enshrouded with matting of white webs spun by the gregarious-feeding larvæ of the last-named species.

In conclusion I once again thank the Council of the Northumberland and Durham Natural History Society for their courtesy in allowing me to draw upon the Hancock Prize Essay, 1936-37.

REPORT ON THE BUILDING-STONES USED IN THE CONSTRUCTION OF THE ABBEY OF ST MARY AT MELROSE.

By R. ECKFORD and F. W. ANDERSON, M.Sc.

THE excavations at Melrose Abbey undertaken by H.M. Office of Works have gradually revealed the outlines of what is probably the greater part of the conventional buildings. The foundations show that the stones employed were drawn from more than one source. The Royal Commission for Ancient and Historical Monuments (Scotland) in the course of preparing their Inventory of the County of Roxburgh appealed to the Scottish Office of The Geological Survey of Great Britain for assistance in identifying the sites from which the builders of the Abbey obtained their material. In response my colleague, Mr F. W. Anderson, and I in the month of May last visited the district, and the conclusions which we arrived at are embodied in the appended Report.

Five types of rock appear to have been used in the building of Melrose Abbey, viz. agglomerate, trachyte, felsite, greywacke, and sandstone.

Agglomerates and sandstones predominate, the latter in a great range of colours and textures, varying from yellow and pink, usually fine-grained sandstones, to coarse red and purplish grits. In general the fine-grained sandstones have been used for facings and carved stones, and the agglomerates for foundations and rubble fillings and as roughly dressed blocks. The trachytes and felsites are not important and appear to have been used incidentally for rubble fillings, etc.

The greater part of the *Church* appears to have been built of a sandstone of fine-grained yellow and pink types except the earlier portion at the north-west corner of the nave which is chiefly agglomerate. All facings, carved work, and vaulting ribs appear to be of the fine sandstone, but in some places,

i.e. between the ribs of the vaulting in the north transept, agglomerate has been used as a filling.

The buildings on the west side of the *Cloister* are constructed mainly of agglomerate with some felsite and trachyte.

The *Refectory* is also mainly of agglomerate with at least one large block of red sandstone.

The east side of the *Cloister* is built mainly of agglomerate with some sandstone.

In the *Cellarer's Range* the four southern pillars are of fine-grained yellowish sandstone, as are the vaulting ribs at this end of the building, and the adjacent walls and buttresses are mainly of sandstone with some agglomerate. North of this the pillars are of agglomerate, and here the walls, vaulting ribs, and buttresses are also mainly agglomerate with some trachyte.

The east-west wall at the northern end of the *Cellarer's Range* is built chiefly of trachyte with some agglomerate, and the square plinths immediately north of this wall are of deep reddish-brown micaceous sandstone.

The *Commendator's House* is mainly of agglomerate, but with a large percentage of sandstone (mainly as corner-stones, coping-stones, sills, jambs, etc.) and greywacke.

The *Abbot's Hall* is mainly agglomerate with some trachyte and greywacke.

The walls of the *Drain* are mainly composed of agglomerate with some sandstone and trachyte. The roofing slabs are entirely greywacke. The bottom, formed of well-rounded greywacke pebbles, is part of an old boulder-strewn channel of the River Tweed.

IDENTIFICATION OF BUILDING-STONES AT LOCALITIES MARKED ON THE ACCOMPANYING PLAN.

1. Yellow sandstone, fine to medium grained, false-bedded.
2. Pink " " " "
3. Pink and yellow, fine-grained sandstone.
4. Pink and red, medium to fine-grained sandstone.
5. Pink and red, fine-grained, false-bedded sandstone.
6. Pink, fine-grained sandstone.
7. Agglomerate.
8. Agglomerate, with trachyte and felsite.

9. Agglomerate.
10. Agglomerate and pink sandstone.
11. Agglomerate.
12. Chiefly agglomerate, a large slab of fine-grained red sandstone at the corner.
13. Fine-grained yellow sandstone.
14. Fine-grained agglomerate.
15. Agglomerate.
16. Agglomerate, with trachyte and felsite.
17. Fine-grained, dark reddish-brown micaceous sandstone.
18. Trachyte, with some agglomerate.
19. Mainly agglomerate, with some sandstone and greywacke.
Roofing slabs are greywacke.
20. Mixture of agglomerate, sandstone, and greywacke.
21. Agglomerate, with some pink sandstone.
22. Dressed blocks of agglomerate, with trachyte and greywacke rubble.

SOURCE OF THE BUILDING-STONES.

Agglomerate.—This rock is composed of angular fragments cemented together and produced as the result of a volcanic eruption. The source of this material is a large volcanic vent of Lower Carboniferous age to the south-west of Melrose, which has been extensively quarried at Quarry Hill.

Trachyte and Felsite.—These are both igneous rocks which occur as intrusive sheets. The Eildon Hills are largely built up of this material, and it is almost certain that the trachytes and felsites used in the Abbey came from here.

Sandstones.—The sandstones appear to be all of Upper Old Red Sandstone age. They vary in texture from fine-grained flagstones to rather coarse grits, and in colour from pale yellow to pink, red, reddish-brown, and purple. Assuming that the nearest and most convenient source would be the most likely, a search was made of the lower slopes of the Eildon Hills where the Upper Old Red Sandstone outcrops as a belt between the Silurian rocks below and the trachyte sheets above.

Between the 800- and 1000-feet contours immediately north of the path leading to the col between North and Mid Eildon are a number of mounds which from their shape and distribution we believe to be tips of waste material from old quarry

workings. Two of these are marked on the map as *Bourjo* or burial mounds. The hill slope behind these mounds shows obscure traces of quarrying, but scree and soil creep have almost obliterated the outline of the quarries. It was possible, however, to collect examples of all the sandstone types used in the Abbey from loose fragments lying about in the vicinity of these old tips. Further, traces are still extant of an old bridle road not marked on the six-inch map, leading from these quarries north-eastwards round the hill. Eventually this track turns sharply at right angles and, leading down the hill slope, joins the path bounded by a hedge to the north of Dingleton Mains Farm which leads into Melrose.

Quarrying also appears to have taken place on the east side of North Eildon at Horseshoe Plantation, and this again may have been a source of building material for the Abbey.

Greywacke.—This stone is a hard sedimentary rock of Silurian age and is the local rock which could have been obtained anywhere in the immediate neighbourhood of the Abbey.

Greywacke Pebbles.—Pebbles seen in the bottom of the drain and in trenches dug to expose the foundations of the Abbot's Hall on the south side are of stream-worn greywacke. The Abbey is built on the site of an old pre-glacial channel of the Tweed. The pebbles of this old river-bed form a platform about five feet below the present surface and are covered with sandy clay, probably part of the flood-plain of the present Tweed. The pebbles are imbricating, *i.e.* they overlap each other on the eastern side, indicating an easterly flow for the pre-glacial river. This old channel has been mapped both to the north and south of Melrose, and in the north bank of the present Tweed to the north of Newstead these gravels are overlain by boulder-clay thus demonstrating their pre-glacial age.

OBSERVATIONS.

1. Judging by the distribution of the building-stones used for the Abbey it appears that the material for the earlier buildings (1136–1385), which are constructed largely of agglomerate, was mainly obtained from Quarry Hill, whereas in the later work (1385–1505) sandstones from the Eildon Hills were most extensively used.

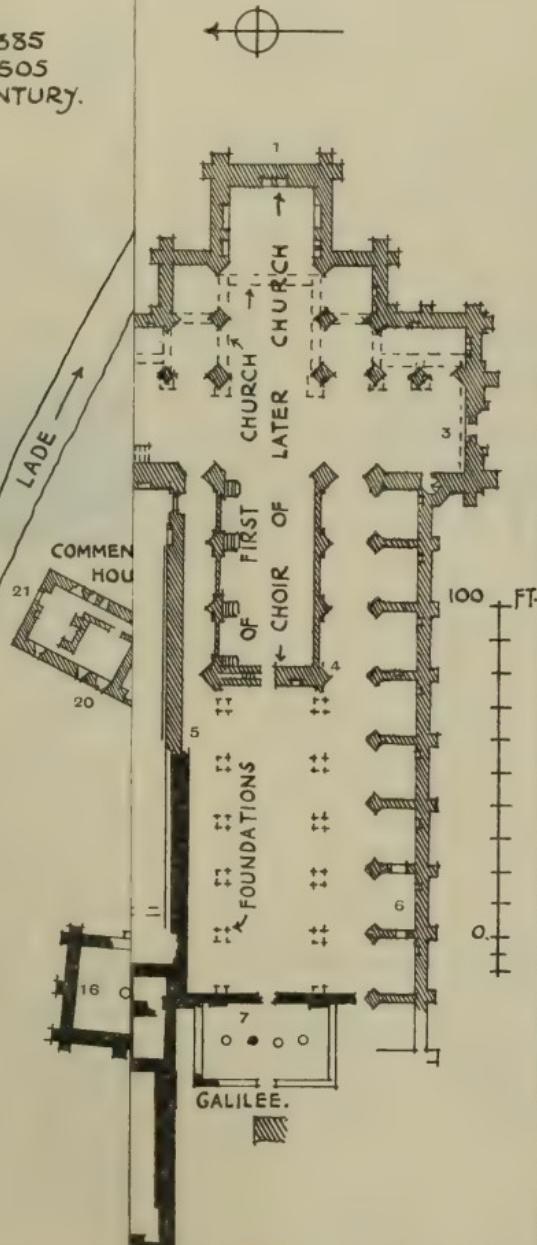
The demand for fine carving necessitated the use of a more workable stone than the coarse agglomerate, and the sandstone was probably first quarried for this reason.

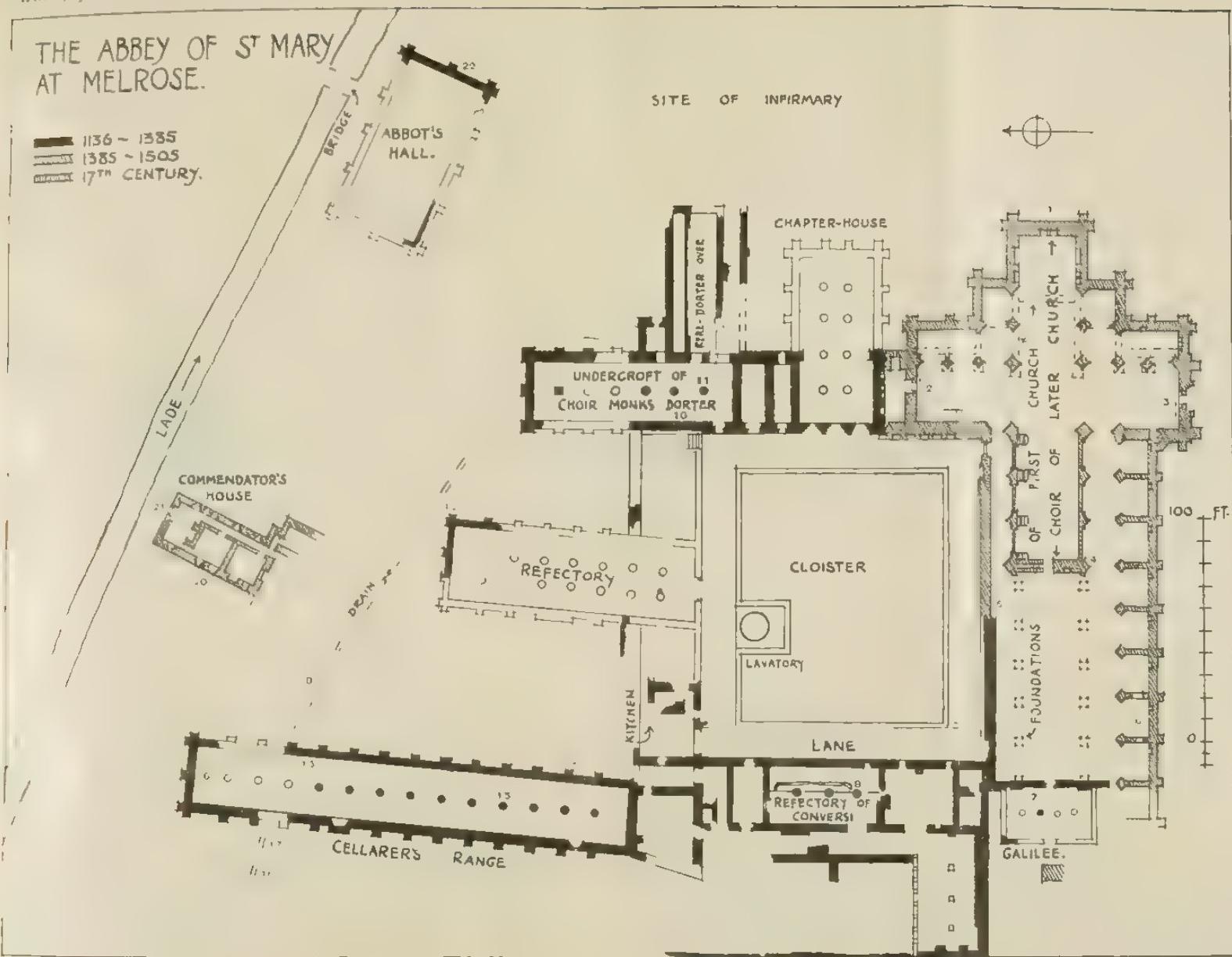
2. The distribution of building-stones in the Cellarer's Range suggests that the four most southerly bays are of a more recent date than the rest of this building as they are constructed predominantly of sandstone, whereas the northern portion is built chiefly of agglomerate, as is the case with the other buildings of the earlier period.

3. The extensive use of agglomerate in the Commendator's House, together with the rather unusual mixture of stones in this building, suggests that it was constructed largely of material taken from the earlier church. The earlier church was probably of agglomerate (as are the existing walls in the north-west corner of the nave). Though the Commendator's House was built when sandstone was the chief building-stone, yet this material does not figure largely in the construction of the House.

THE ABBEY OF AT MELROSE.

— 1136 ~ 1385
— 1385 ~ 1505
— 17TH CENTURY.





BRITISH ASSOCIATION MEETING AT DUNDEE.

By Mrs BISHOP.

HAVING the honour, once again, to be your delegate at the annual meeting of the British Association I repaired to Dundee, in which town the Association had not met for twenty-seven years.

Sir Edward Schäfer, the then President, gave an address on "Nature, Origin and Maintenance of Life."

The Duke of Buccleuch occupied the presidential chair seventy-two years ago, so this is really the third time the British Association has met in the "Jute City."

There was a large, interested and expectant audience assembled in the Caird Hall at 8 p.m. on 30th August at the inaugural meeting.

The Lord Provost (John Phin, Esq., J.P., LL.D.) heartily welcomed members of the Association, remarking that this meeting may well be called the most momentous one, and actually it was so, for, ere three days were over, it was decided to cancel all meetings.

Emeritus Prof. Sir Albert Seward, Sc.D., D.Sc., LL.D., F.R.S., gave his address with its alluring title, "The Western Isles through the Mists of Ages."

He took his audience on an excursion into the past—"into a world that knew not man," with the object of deciphering from such records as are to be found a few pages of the story-book of the earth. He quoted Hugh Miller, the great Scotsman, who wrote a century ago: "We find the present incomplete without the past—the recent without the extinct."

He quoted Samuel Johnson: "Whatever makes the past, the distant, or the future predominate over the present, advances us in the dignity of thinking beings."

The object of the President was to reconstruct a small part of an ancient land, a remnant of which is now called Scotland;

and envisage a scene at a stage in the history of the earth separated from the present by at least sixty million years.

(One had to remember that the earliest chapters of the world's history are recorded in rocks at least two thousand million years.)

It was only possible to lift a corner of the veil separating us from the world as it was, and view, through dimly illuminated vistas, the forests and undergrowth on an ancient continent that is now represented by a few widely scattered dismembered pieces. A student may ask questions of Nature and do his best to interpret the answers.

“Speak to the earth and it shall teach thee.”

Such knowledge, Sir Albert said, is within the reach of all who desire to read the open pages of Nature's book. In the rocks we find the soul of History. The whole world throbs with life, and the joy of it is ours to share.

Some very interesting slides of “Earth's Earlier Youth” were shown upon the screen—records left by Nature in a mischievous mood—but the President warned the student that fossil leaves are very uncertain guides; at least so said some of our earlier authorities (Sir Joseph Hooker in 1868), and there has been, at times, danger of misinterpretation.

The documents that are the source of the botanical historian are contained in the earth's crust. Thus we see in rocks the record of former ages. Certain rocks had been formed by volcanic action. In Scotland there were numerous examples.

Nature's methods had been continuous. There was no reason to think otherwise.

It was with extreme interest that I beheld on the screen some fine fossil specimen photographs of Gingko—the Maidenhair tree. Many a time and oft had I heard my late husband draw the attention of the visitor to two plants of Gingko-biloba which flourish in our garden and of which he was rather proud. “The most interesting thing in our garden,” he would say, “the survival from an age too remote for us to measure in terms which we can fully appreciate”—found in China and Japan.

“We know,” said the President, “that Gingko, now a lonely relic in the present world, is a primitive and isolated type, the sole representative of a large family, including many different

members, all of which, save the Maidenhair tree, long ago fell by the way in the struggle for existence."

When the tree lived in the Hebridean forests it was common in other parts of the Thulean continent from North Canada to Greenland and Spitzbergen, in North America, Europe and Asia. It was as widely distributed geographically as oaks, pines, and firs in the modern world. The history of Gingko is a record of persistence, with apparently little change in an unstable world. When we recall the amazing life-story of the tree and its forebears, the autumnal colour acquires a deeper significance. We see in the pale yellow of the leaves a reflection of the golden age of a family that left a precious legacy as age succeeded age. The Gingko of Mull was not the last of its race in Europe. Well-preserved remains have been found in younger rocks in France and Germany, proving that it survived in the Western world, though probably only in a few places.

There were various examples of flowering plants, trees and shrubs shown upon the screen, with and without descendants in Europe—a species of oak from Mull very like the Indian and Far Eastern oaks of China and Japan. It was interesting, too, to find that the Plane tree had a place in the Hebridean woodland. Male flowers and fruit balls as well as leaves were found in fossil remains—two fairly large leaflets being attached to the leaf stalk of the Mull tree and so differing from the Plane tree of England and its cousins the Sycamore, more common in Scotland.

Remains of Plane trees have been found as far north as Spitzbergen in rocks of the same age as those in Mull. The President said at the present time there are six or eight varieties of Plane trees, and some of the oldest known fossil leaves and fruits are from the early cretaceous beds in Greenland, at least 300 miles north of the Arctic circle. There was definite proof that Plane trees lived in Arctic forests millions of years before they spread to the southern part of the Thulean continent.

The President made a plea for a wider recognition of Physical Geography and Geology as branches of knowledge. He referred to himself as a Botanist whose first love was Geology.

He quoted Darwin, who called Geographical Distribution a noble science—"Almost the keystone of the Laws of Creation." He referred to a sentence written by Hugh Miller in a letter to

a friend: "Geology is, I find, a science in which the best authorities are sometimes content to unlearn a good deal."

The speaker thought that was worth much. It helped to cultivate the not too common virtue of admitting it possible to make a mistake. He quoted words of Sir William Bragg's presidential address at Glasgow (1928): "Some speak of modern science as tending to destroy reverence and faith. I do not know how that can be said of the student who stands daily in the presence of what seems to him to be Infinite. . . ."

This evening we had but caught through the mists a glimpse of a scene on Earth's Stage separated from the present by a small fraction of geological time. He admitted that what we had seen threw little light on the evolution of the Plant World. Still, the main conclusion forced upon one was convincing that it was impossible to understand the present distribution of plants over the earth's surface, unless one surveyed the past. "There are still some people," said the President, "who ask what is the use of the kind of information given in this address? His reply was, that knowledge gained from a study of Nature has a value beyond price. The earth was once lifeless; when and how living protoplasm had its birth we do not know, nor do we know whereupon were the foundations of the earth laid."

Sir James Irvine, C.B.E., D.Sc., F.R.S., Principal and Vice-Chancellor of St Andrews University, welcomed the Association to Dundee, while the Rt. Hon. Lord Rayleigh, D.Sc., LL.D., F.R.S. (Past President of the British Association), proposed a vote of thanks to the President. The General Treasurer (Prof. P. G. H. Boswell, F.R.S.) announced the number of tickets issued for the meeting—3190 members—being the largest number recorded at a meeting in Scotland (116 more than at the Glasgow meeting in 1928).

The work of the thirteen sections began on Thursday morning, and as has been usual in the last few years the sectional presidential addresses were to have been distributed throughout the various days of the week. A few rearrangements of time-tables and speakers had to be made.

Several speakers dealt with "Films" in their various aspects. I attended a session at 10 a.m. on Thursday, 31st August (Psychology). It proved thoroughly interesting.

Mr Mackay said that the Cinema in the classroom had proved

a great aid to education. He proved that for children who led lives of circumscribed experience the Cinema was indispensable, for it enabled pupils to view scenes otherwise difficult or impossible to present in the classroom. Children preferred motion pictures. Thus, still pictures were of less value. He thought the silent film should hold first place, as an unaccustomed voice was disturbing to the child; while an older boy remarked: "We can write better after an oral lesson."

Dr Inglis said that the vices of the entertainment film for children tend to be emphasised to the neglect of their virtues. He said that 41 per cent. attend the Cinema once or twice a week—as an "escape," he thought.

Mr A. Cavalcanti's paper, "Propaganda by Films," was most interesting, likewise that of Mr Oliver Bell on "Public Tastes and the Entertainment Film." He said truly: "How little producers really know of public taste is shown by the manner in which each financially successful film is followed by a spate of imitations." He called for more serious research on these matters, for the immense industry has been built up by showmen, who by unscientific, intuitive methods have roughly assessed public taste and made sufficient profits.

"The prime necessity of the moment is the creation of a Market Research Board working in co-operation with bodies like the Film Institute, reflecting the attitude of serious film-goers, and the relevant Government Departments which will co-ordinate to their mutual advantage the conflicting viewpoints of producers, renters, and exhibitors, and equate on a scientific basis the demands of the public with the financial, technical, and artistic resources of the industry."

The Educationists devoted most of their time and energy to Education for Industry. Mr A. P. M. Fleming, the sectional President, made a number of suggestions for closer contact between educational organisations and industrial firms.

"Boys must be encouraged to have a career," Mr W. O. Lester Smith maintained, and to be employed in a job in which they were interested meant so much. He complained that applicants were tongue-tied and could not express themselves, as a rule. Information had to be dragged from them by a series of questions.

Mr J. B. Longmuir commenced with a summary of the

educational requirements for those in industry, and the extent to which these are being met was described. He thought we lagged behind Holland, Belgium, Denmark, and Germany.

At the close of this meeting I was informed that a meeting of Committee had been called for that afternoon.

Many opinions were voiced, a vote was taken, and it was agreed unanimously to abandon all further meetings. So it came to pass that for the first time in history a meeting of the British Association was cancelled on account of the outbreak of war.

Sir Richard Gregory, Bart., F.R.S., was unanimously elected President for next year.

TO THE KING.

The General Committee sent the following telegram, signed by Sir Albert Seward, President:—

“The British Association, whose meeting in Dundee is unhappily shortened by the present anxieties, send humble and affectionate greetings to His Majesty, their Patron, and assure him—were assurance necessary—of their continued devotion and loyalty.”

DR JOHN STEWART MUIR OF SELKIRK. 1845–1938.

By WILL RUTHERFORD.

THE late Dr John Stewart Muir of Selkirk was President of the Berwickshire Naturalists' Club in the year 1934, in the ninetieth year of his age. During his year of office he attended all the meetings of the Club, and discharged all the duties of President with as complete efficiency as if he had been half his age, and to the entire satisfaction of the members. As one example out of many of his extraordinary physical and mental fitness for a man of his years, at one of these meetings after the Club had met at Oakwood Tower and gone on to Bowhill he was one of the members who walked by the now overgrown and rough track, still known as the Duchess's Drive, from Ettrick over into Yarrow, a distance of some five miles of heavy going, to Newark Tower, where he at once proceeded to give an interesting sketch of its history, thereafter going on to Broadmeadows and presiding over the close of the meeting there. A long and strenuous day!

He was born on 7th February 1845, being the fourth son of the Rev. Francis Muir of the United Presbyterian Church, Junction Road, Leith. He was one of a family of six sons and seven daughters, and, when commenting on the comparative smallness of present-day families, used to recall that two other clergymen contemporaries of his father in North Leith had similar large families, the three families taken together numbering forty-one.

He was educated at the High School of Edinburgh, one of the oldest and most famous schools of the country, which was then still under the management of the Town Council of the City of Edinburgh. It afterwards got its present designation of The Royal High School of Edinburgh, as, during Dr Muir's time, the late King Edward VII and his brother the Duke of Edinburgh attended classes there. It is now under

the management of the Education Authority. Choosing the profession of medicine, he passed from the High School to the Medical School of the University of Edinburgh. In 1866 he became a Licentiate of the Royal College of Physicians and Surgeons, and in the following year, August 1867, he graduated at the University. In 1866 he acted for a short time as an assistant to Dr Thomson of Leven in Fife, and was at the date of his death, seventy-two years afterwards, the last medical man who had served through an outbreak of the dreaded Asiatic Cholera in this country. In 1867 he was one of the House Surgeons of the Edinburgh Royal Infirmary, and for a short time assistant to Dr William Brown, Melrose, brother of Dr John Brown, who wrote *Rab and His Friends*. While there he became acquainted with Dr Clarkson, who had been the local medical attendant of Sir Walter Scott. In July 1867 he went to Selkirk as assistant to Dr Henry Scott Anderson, who, from the house now used as the Municipal Buildings of the Burgh of Selkirk, carried on a very extensive practice extending over the whole Burgh and County of Selkirk, together with the Parishes of Stow, Melrose, St Boswells and Mertoun, also Traquair and Lilliesleaf. Dr Muir in 1874 took over Dr Anderson's practice. A doctor's only way of reaching his distant patients was then by means of horses; where the roads were good enough by the old high doctor's gig, now as much a thing of the past as a hansom cab, and where the roads were not good enough or only tracks by riding. Dr Anderson kept four horses and had in addition a large bill for hiring. Dr Muir used to say that in the early years he practically spent his life in the saddle, and it was then that he got to know every hill and glen round Selkirk so well, and developed that great love for the peculiar beauty and charm of the Border country which never left him. Distances of 30 to 50 miles in a day were quite common; his longest distance in one day was 76 miles. In 1882 he took to the cycle, first the old high bicycle and afterwards the modern low one. He found the cycle a great saving of time, and in addition it enabled him, he said, to do with two horses and greatly reduced his hiring bill. In 1886, when President of the Border Branch of the British Medical Association, he took as the subject of his address "The Advantages of the Bicycle to the Medical

Profession." He used to say that there are many more doctors nowadays, and that no doctor now, though he might have more patients, had as widespread a country practice as was not uncommon when he began, and that not only are the distances that a doctor has to go very much reduced on the average, but the advent of the motor-car has made it much easier and quicker to cover the necessary ground. Even isolated and remote hill cottages are much more accessible. Moreover, when he began to practise, the country doctor had to be all things to all men—physician, surgeon, dentist, oculist, aurist, and, of course, accoucheur. During his long practice he officiated at the births of no fewer than 3344 children, and kept in touch with a great many of them during their lives, including the two first, who were each in their seventy-second year when the doctor died. In his early days there was no such office as Medical Officer of Health, but before he died he had held such offices for many years for the Burgh of Selkirk and for the Parishes of Selkirk, Kirkhope, Ettrick, Yarrow, Ashkirk and Lilliesleaf. These are now merged in one County appointment. He used to congratulate the County on the great improvement in the housing and sanitary conditions, and in the great decrease in the abuse of alcohol that had taken place in his lifetime. During his long active practice of sixty years the practise of medicine had been revolutionised. To take surgery, as an example more easily appreciated by the layman, he began to practise only a few years after Simpson of Edinburgh had established the use of chloroform, and in the very year when he began, 1867, Lister of Glasgow first published his *Theory of Antiseptic Surgery*. There were few hospitals, and operations had to be performed at the patients' houses, often under very difficult conditions.

In 1928, sixty-two years after he had become a Licentiate, he had the very rare distinction for a country doctor of being made an Honorary Member of the Royal College of Physicians of Edinburgh.

For the long period of sixty years he had a very active and very busy professional life, and all the while had innumerable interests outside his profession. He was very public spirited and patriotic, and took his part, and generally a leading and influential part, in all movements for improving the conditions

of the people. In 1870 he joined the old Border Rifles as Medical Officer and retired in 1895 with the rank of Lieut.-Colonel and Hon. Colonel. He was a Justice of the Peace for the County of Selkirk, and also an Honorary Sheriff-Substitute.

He was a strong churchman and for fifty-six years an elder of the Lawson Memorial Church, Selkirk.

He married the youngest daughter of the late Peter Rodger, a member of an old Selkirk family, who was Town Clerk of Selkirk, and had been Procurator-Fiscal under Sir Walter Scott as Sheriff.

At the Selkirk Common Riding of 1934, when one of his grandsons, and a namesake, was Standard Bearer, he, though he had not been on horseback for many years and was in his ninetieth year, rode the Burgh marches, which involves a testing ride of twelve miles, including riding to the top of the Three Brethren Hill, over 1500 feet high. On that occasion four generations were present on horseback.

He was a golfer and an angler, and a lover of all outdoor sports. He was a very good public speaker, having a strong resonant bass voice, and was greatly in request and very popular as a speaker and singer on all kinds of occasions. He was an excellent story-teller and reciter, and had a very great and all-pervading sense of humour. When over ninety years of age his voice was still good and strong, and he gave several successful broadcasts. Above all, he was brimming over with a good nature that was infectious, and probably of no man could it be said more truly that everyone who knew him, young and old, rich and poor, was his friend and that he had no enemies.

In July 1917, on the occasion of his jubilee, at a public meeting held in his honour he was presented by the County Council of Selkirk and by the Town Council of the Royal Burgh of Selkirk, acting on behalf of the whole community, with an Address in these terms:

"In accordance with the widely expressed desire of the inhabitants of the County and Burgh of Selkirk, we beg to offer you cordial congratulations upon the attainment on 11th July 1917 of fifty years' service in the community. In doing so, we have in view, not only your labours in the exercise of your profession, distinguished as they have been by an ability and sympathy which have earned in an exceptional degree the esteem



DR MUIR.

[To face p. 192.]

and affection of all to whom you have ministered, but also your deep interest and valuable help in every enterprise for the good of the people.

"Your work in connection with the present war calls for special recognition. You have taken a leading part in all schemes for the comfort and welfare of our troops who have gone out to fight our battles, and who have been sent to this district for training. You have set an inspiring example to younger men by your personal service as a Special Constable and a member of the Volunteer Force; and the Red Cross Society owes its great local success, in large measure, to your energy and enthusiasm.

"We also express the hope that you will have many years of useful work and happy association in the community."

He continued to practise for another ten years. He was then, on 18th June 1937, at the Common Riding of that year, presented with the Freedom of the Royal Burgh of Selkirk, the highest honour that his fellow-citizens had it in their power to bestow. In making the presentation the Provost said: "Seventy years was nearly three generations, and all these years this cheery welcome visitor had moved up and down the town and the valleys, bringing healing and comfort to sick and weary, beloved and revered by all. He had seen and spoken with many great ones of the past, and seen great changes in the structure and character of the town. By his unselfish devotion to duty and his amiable qualities as a man he had lived his long life without making an enemy, and had woven himself into the hearts and history of their people."

He first became a member of the Club in 1883, but resigned as he found it impossible to attend the meetings. On retiring from practice he rejoined in 1925, and continued an active member till his death, having been, as already stated, President in 1934. He died on 18th November 1938, full of years and of honours. His death called forth a general and remarkable expression of affectionate appreciation. In the Press he was referred to as "The Beloved Physician" and "The Grand Old Man of Selkirk."

ORNITHOLOGICAL AND OTHER NOTES.

By R. CRAIGS, CATCLEUGH, 1939.

- Jan. 5. Male immature Great Northern Diver taken off ice on Reservoir by a fox. I sent it to the Hancock Museum, where it was identified. It was of no use as a specimen, but the skull has been preserved. This is my first record for the species in Redesdale.
,, 16. Two Goosanders (male and female) on Rede at Blakehopeburnhaugh.
,, 20. Two Whooper Swans on Reservoir.
,, 27. Female Merganser on Reservoir.
- Feb. 2. Two Oyster-catchers sitting on the Overflow Weir.
,, 5. Three Goosanders (1 male and 2 females) on Reservoir.
,, 8. Blackbird, Chaffinch, Coal Tit, Great Tit, Goldfinch, Song Thrush and Skylark in song. It was an exceptionally fine morning and all seemed glad to give vent to their pent-up energy. Robins joined the chorus.
,, 10. Lapwings return in numbers.
,, 11. Twenty-five Pink-footed Geese flying S.E.
,, 12. Two Golden-eyes on Reservoir.
,, 14. Curlews and Golden Plovers in good numbers at Otterburn.
- Mar. 3. Large flock of Fieldfares at Woolaw.
,, 4. Flock of about sixty Geese flying N.W. When over the Reservoir they broke the V formation and circled around in confused order.
,, 6. Several Meadow Pipits seen at Byrness.
,, 8. Redshank returns.
,, 9. Female Merganser still on Reservoir.
,, 12. Pied Wagtails return.
,, 21. Pair of Goldfinches sitting on wall of Reservoir embankment.
,, 23. A large number of Chaffinches and Pied Wagtails feeding in Bywash.

- April 10. Hooded Crow circling over Reservoir. It is some years since I saw the species in the valley.
- ,, 11. Sandpiper returns.
- ,, 17. Willow Warbler returns.
- ,, 18. Ring Ouzel seen in Cross Cleugh by the shepherd.
Five Siskins in Garden Wood.
Found Woodcock's nest with four eggs in Garden Wood.
- Wheatear at Coldtown.
Saw twenty Redshanks (in pairs save two) between Otterburn School and Low Leam, West Woodburn.
- ,, 24. Watched a Mallard bring eleven ducklings down Rede into Reservoir.
- ,, 26. Cuckoo heard and seen at Ramshope Shooting-box.
- ,, 28. Swallow first seen.
Saw two Mallards in Rede with broods of twelve and fourteen.
- ,, 29. Tree Pipit first seen.
- ,, 30. Barn Owl with six eggs in pigeon-cot at Catcleugh Farm.
- May 4. House Martin first seen.
- ,, 4, 5 and 6. Several small flocks of Fieldfares flying N.W.
- ,, 6. Short-eared Owl at Blakehopeburnhaugh.
Whinchat arrives.
- ,, 14. Pair of Golden-eyes on Reservoir.
- ,, 16. Male Tufted Duck on Reservoir.
- ,, 17. Great increase of House Martins.
- ,, 18. Wood Warblers return.
- ,, 19. Pair of Fieldfares in woods.
- ,, 20. Sedge Warbler below Catcleugh.
- ,, 21. Grasshopper Warbler at Blakehopeburnhaugh. Heard on subsequent occasions.
- ,, 22. Whitethroat arrives.
Garden Warbler arrives.
Increase in number of Cuckoos in the district.
- ,, 23. Saw a large colony of Sand Martins on the banks of the Rede at Low Leam.
- June 8. Eight degrees of frost did a lot of damage to young shoots. Beeches, spruce and larch suffered most.

- June 13. Watched two pairs of Wheatears feeding young at Coldtown. The young were squatted among the grass and rushes.
- ,, 15. Corncrake heard at Woolaw. The only record I have for the year.
- ,, 18. Great Spotted Woodpecker's nest located in Deadwood. By the aid of my glasses I watched the parents feeding the young at the aperture leading into the nest.
- ,, 19. Several broods of Golden-crested Wrens fledged during the week-end.
- July 1. Pair of Goldfinches at Broomhill, near Leaderfoot.
,, 3. Cuckoo last heard.
- ,, 10. Heard Crossbills in wood behind Catcleugh Farm.
- ,, 13. Saw two young Goldfinches at Woodhouse, West Woodburn. A pair of adults were seen at the same spot on 18th April.
- ,, 20. Two Crossbills in grounds.
- Aug. 5. Watched a pair of Redpolls feeding a young Cuckoo at Woolaw Bridge. They came down from Birdhopecraig Hall.
- ,, 8. That morning, when going to work down on Saughen-side, I saw a large number of Swallows and House Martins congregated on the telegraph wires at Byrness. And all along the roadside to Low Byrness there was a large asseimblage of Meadow Pipits. The following morning very few birds of these species were to be seen. Is the 8th August not an early date for their departure?
- ,, 15. Saw Great Spotted Woodpecker in Vineyard, near Old Town.
Saw six Kingfishers on Rede in front of Leam Cottage, West Woodburn.
- Sept. 2. Late brood of Golden-crested Wrens fledged.
- ,, 29. Small flocks of Redwings flying about, and on subsequent days.
Twites were also observed.
House Martin last seen.
- Oct. 2. Swallow last seen.
,, 3. Three Green Sandpipers at Ramshope.

- Oct. 12. Small flock of Snow-buntings flying down the valley.
 ,, 20. Six Mute Swans flying down the valley.
 ,, 22. Dead Fieldfare found lying on roadside above
 Catcleugh Farm.
 ,, 31. Fieldfares seen in good numbers.
- Nov. 5. Four Pochards and one female Goosander on Reservoir.
 One Bramblefinch at Ramshope. It is a long time
 since I saw a bird of the species in the valley.
- Dec. 4. Pair of Goldfinches at Low Byrness.
 Small flock of Siskins at Birdhopecraig.
 ,, 14. A late Curlew passing down the valley.
 Small flock of Siskins at Catcleugh.
 ,, 24. Seven Widgeon females, three male Pochards, three
 Golden-eyes males and four Whooper Swans on
 Reservoir.
 ,, 29. Raven croaking over Catcleugh.
-

- Sept. 25. *Dytiscus marginalis* (Great Water-beetle) H. H. Cowan.
 June 27. Lunar Thorn (*Selenia tetralunaria*).
 Beautiful Yellow Underwing (*Anartia myrtilli*).
 Common Heath (*Ematurga arenaria*).
 Mimæsoptilus bipunctidactylus.
 Platyptilia ochroductyla.
 Sericoris euphorbiana.
 Crambus pratellus.
 Pleurota bicostella. Coldingham Moor.
 Mar. 10. Long-eared Owl. Beadnell.
 Also on Coldingham Moor. June 27.
 Sept. 6. Grayling (*Satyrus semele*). Col. Logan Home.

By A. M. PORTEOUS, 1939.

- Jan. 1. Robin's nest containing five eggs—both birds coming
 about nest. Coldstream.
 ,, 10. Nest now deserted, owing no doubt to the severe
 weather conditions.
 ,, 17. Two male Smews in full plumage. Hirsel Lake.
 ,, 22-23. Great Northern Diver. Hirsel Lake.
 Smews remain for several days. Hirsel Lake.

- July 1. Turtle-doves calling in Cornhill Woods.
 ,, 23. Three Turtle-doves. Oxenrig.
 ,, 24. Turtle-doves reported at Simprim.
- Sept. 29. Peacock Butterfly. Coldstream.
- Oct. 6. Larva Death's-head Hawk Moth from potato fields.
 Coldstream Mains.
 ,, 9. Larva Death's-head Hawk Moth from potato fields.
 Lochton. Larva burrows under soil to pupate.
- Nov. 12. Jay, Kingfisher, Hawfinch. Hirsel.
 Large Brown Trout and Sea-trout together on gravel-
 bed spawning. Leet.
 ,, 13. Five eggs laid by Tortoise in garden. Coldstream.

ENTOMOLOGY.

- June 3. Saw Burnet Companion in large numbers on the slopes
 of the railway cutting near Leaderfoot Viaduct.
 At the same time and place I came upon a colony of
 cocoons of the Six-Spot Burnet. Unfortunately,
 when I again visited the site on 1st July it had
 been scorched by a fire on the cutting slope.
- Aug. 6 and 7. Saw Blandina in considerable numbers at Gatton-
 side Moss and in a wood near Selkirk.
 ,, 6. Saw six Small Copper Butterflies down Packman's
 Burn.
- Sept. 9. Saw Peacock Butterfly in Reservoir Cottage garden,
 this also being my first record for Redesdale.

BOTANY.

- May 28. Found a large colony of Pink Wood Sorrel in Dead-
 wood.
- June 22. When showing a party of friends the colony of Adder's-
 tongue Fern at Catcleugh, one of them came upon
 a single plant of Moonwort Fern. Although the
 late Mr Newlands told me that the plant was to be
 found in the Manse croft at the Sills Burnfoot, it
 is the first time I have seen it.
- It may be also of interest to say that the Great
 Spotted Woodpeckers again reared a brood in
 Deadwood.

SOME PLANTS FOUND DURING 1939.

By JOHN BROWN.

Meeting at Langton Glen. Plants found there on 17th May
1939.

- | | | |
|-----|-------|---------------------------------------|
| No. | 9. | <i>Anemone nemorosa.</i> |
| " | 32. | <i>Ranunculus auricomus.</i> |
| " | 42. | <i>Caltha palustris.</i> |
| " | 105. | <i>Cardamine pratensis.</i> |
| " | 128. | <i>Sisymbrium officinale.</i> |
| " | 299. | <i>Montia fontana.</i> |
| " | 594. | <i>Geum urbanum.</i> |
| " | 595. | <i>Geum rivale.</i> |
| " | 596. | <i>Fragaria vesca.</i> |
| " | 599. | <i>Potentilla sterilis.</i> |
| " | 614. | <i>Alchemilla pubescens.</i> |
| " | 706. | <i>Saxifraga granulata.</i> |
| " | 718. | <i>Chrysosplenium oppositifolium.</i> |
| " | 719. | <i>Chrysosplenium alternifolium.</i> |
| " | 776. | <i>Circeea lutetiana.</i> |
| " | 783. | <i>Sanicula europaea.</i> |
| " | 833. | <i>Angelica sylvestris.</i> |
| " | 839. | <i>Heracleum Sphondylium.</i> |
| " | 852. | <i>Adoxa Moschatellina.</i> |
| " | 863. | <i>Galium Cruciata.</i> |
| " | 873. | <i>Galium Aparine.</i> |
| " | 875. | <i>Asperula odorata.</i> |
| " | 879. | <i>Sherardia arvensis.</i> |
| " | 881. | <i>Valeriana officinalis.</i> |
| " | 1395. | <i>Sympytum tuberosum.</i> |
| " | 1408. | <i>Myosotis sylvatica.</i> |
| " | 1449. | <i>Scrophularia nodosa.</i> |
| " | 1465. | <i>Veronica serpyllifolia.</i> |
| " | 1473. | <i>Veronica montana.</i> |
| " | 1722. | <i>Mercurialis perennis.</i> |
| " | 1868. | <i>Allium ursinum.</i> |

- No. 1872. *Scilla non-scripta*.
 ,, 1910. *Luzula pilosa*.
 ,, 1911. *Luzula sylvatica*.

Meeting at West Newton, 20th July 1939.

- No. 63. *Papaver dubium*.
 ,, 70. *Chelidonium majus*.
 ,, 161. *Thlaspi arvense*.
 ,, 176. *Reseda luteola*.
 ,, 179. *Helianthemum Chamæcistus*.
 ,, 238. *Lychnis alba*.
 ,, 239. *Lychnis dioica*.
 ,, 240. *Lychnis Flos-cuculi*.
 ,, 264. *Stellaria uliginosa*.
 ,, 282. *Sagina procumbens*.
 ,, 289. *Spergula vulgaris*.
 ,, 314. *Hypericum pulchrum*.
 ,, 323. *Malva sylvestris*.
 ,, 344. *Geranium molle*.
 ,, 350. *Geranium Robertianum*.
 ,, 469. *Spiraea ulmaria*.
 ,, 734. *Sedum acre*.
 ,, 748. *Callitricha vernalis*.
 ,, 819. *Sherardia arvensis*.
 ,, 891. *Dipsacus sylvestris* (Doddington).
 ,, 898. *Solidago Virgaurea*.
 ,, 910. *Filago minima*.
 ,, 942. *Matricaria suaveolens*.
 ,, 944. *Tanacetum vulgare*.
 ,, 946. *Artemisia vulgaris*.
 ,, 958. *Senecio sylvaticus*.
 ,, 962. *Senecio Jacobæa*.
 ,, 976. *Carduus nutans*.
 ,, 977. *Carduus crispus*.
 ,, 1269. *Hypochaeris radicata*.
 ,, 1302. *Campanula rotundifolia*.
 ,, 1399. *Lycopsis arvensis*.
 ,, 1415. *Echium vulgare*.
 ,, 1430. *Verbascum Thapsus*.

- No. 1443. *Linaria vulgaris.*
 ,, 1449. *Scrophularia nodosa.*
 ,, 1452. *Mimulus Langsdorffii.*
 ,, 1455. *Digitalis purpurea.*
 ,, 1464. *Veronica arvensis.*
 ,, 1476. *Veronica Beccabunga.*
 ,, 1552. *Thymus ovatus.*
 ,, 1554. *Calamintha Acinos.*
 ,, 1575. *Stachys sylvatica.*
 ,, 1577. *Stachys palustris.*
 ,, 1597. *Teucrium Scorodonia.*
 ,, 1617. *Scleranthus annuus.*
 ,, 1621. *Chenopodium polyspermum.*
 ,, 1659. *Polygonum Convolvulus.*
 ,, 1705. *Euphorbia Helioscopia.*

Meeting at Ross Links, 14th June 1939.

- No. 4. *Thalictrum dunense.*
 ,, 16b. *Ranunculus trichophyllum* var. *Tarouetii.*
 ,, 28. *Ranunculus Flammula.*
 ,, 208. *Polygala dubia.*
 ,, 253. *Cerastium arvense.*
 ,, 333. *Linum catharticum.*
 ,, 379. *Ononis repens.*
 ,, 426. *Astragalus danicus.*
 ,, 779. *Hydrocotyle vulgaris.*
 ,, 795. *Apium inundatum.*
 ,, 869. *Galium palustre.*
 ,, 886. *Valerianella olitoria.*
 ,, 910. *Filago minima.*
 ,, 1272. *Leontodon hispidum.*
 ,, 1277. *Taraxacum paludosum.*
 ,, 1317. *Erica Tetralix.*
 ,, 1319. *Erica cinerea.*
 ,, 1389. *Cynoglossum officinale.*
 ,, 1404. *Myosotis cespitosa.*
 ,, 1611. *Littorella uniflora.*
 ,, 1783. *Corallorrhiza trifida.*
 ,, 1888. *Juncus squarrosus.*

- No. 1992. *Scirpus cæspitosus.*
 ,, 2246. *Nardus stricta.*
 ,, 2301. *Ophioglossum vulgatum.*
 ,, 2311. *Equisetum limosum.*
 ,, 2323. *Selaginella selaginoides.*

Belsay meeting, 28th June 1939.

- No. 1609. *Plantago media.*
 ,, 1673. *Polygonum Bistorta.*
 ,, 1690. *Rumex Hydrolapathum.*

Cattrail meeting, 25th May 1939.

- No. 93. *Barbarea vulgaris.*
 ,, 448. *Vicia lathyroides.*
 ,, 912. *Antennaria dioica.*

On a visit to Ford Moss with Mr J. B. Duncan and a friend.

- No. 184. *Viola palustris.*
 ,, 741. *Drosera rotundifolia.*
 ,, 1310. *Oxycoccus quadripetala.*
 ,, 1355. *Trientalis europaea.*
 ,, 1406. *Myosotis repens.*
 ,, 1734. *Myrica Gale.*
 ,, 1944. *Potamogeton natans.*
 ,, 2040. *Carex canescens.*
 ,, 2067. *Carex panicea.*
 ,, 2089. *Carex inflata.*

On a visit to Ford Wood End with Mr J. B. Duncan and a friend, 22nd June 1939.

- No. 1019. *Crepis paludosa.*
 ,, 1474. *Veronica scutellata.*
 ,, 1810. *Orchis prætermissa.**
 ,, 1813. *Orchis elodes.*
 ,, 1935. *Echinodoras (alisma) ranunculoides.*
 ,, 2085. *Carex hirta.**
 ,, 2171. *Briza media.*

* Not mentioned before.

- No. 823. *Oenanthe lachenalii* } Newham Bog.
,, 1825. *Caloglossum viride* }
,, 970. *Carlina vulgaris.* Scremerton dunes.
,, 393. *Melilotus officinalis.* Carr Rock.
,, 325. *Malva rotundifolia.* Beadnell.

The above List of Plants is numbered in accordance with the
London Catalogue of British Plants, 11th Edition.

METEOROLOGICAL OBSERVATIONS IN BERWICKSHIRE DURING 1939.

Compiled by the Rev. A. E. SWINTON of Swinton, M.A., F.R.Met.S.

RAINFALL IN BERWICKSHIRE DURING 1939.

Compiled by the Rev. A. E. SWINTON of Swinton, M.A., F.R.Met.S.

Station.	Height above sea-level.	Tweedhill.	Whitchester.	Oxendean (Duns).	Duns Castle.	Manderston.	Nisbet House.	Swinton House.	Lochton.	Marchmont.	Cowdenknowes.	Dura-
												Hours.
Month.												
January .	3.86	3.81	7.61	5.83	5.67	5.52	5.36	4.76	4.68	5.81	5.72	115.5
February .	1.52	1.93	1.76	1.81	1.76	1.04	1.67	1.20	1.37	1.87	1.61	31.7
March .	2.20	3.14	3.04	2.88	2.89	3.27	2.90	2.64	2.52	2.92	3.08	65.5
April .	1.32	1.25	1.22	1.28	1.30	1.12	1.36	1.39	.97	1.57	1.17	38.3
May .	1.54	1.47	1.34	1.10	1.14	.89	.93	.79	.78	.87	.96	21.9
June .	2.05	1.75	2.73	2.06	2.10	1.84	1.78	1.87	1.97	1.80	1.68	35.3
July .	2.87	1.46	3.07	3.07	3.31	3.21	2.82	2.34	3.20	3.50	2.89	43.7
August .	1.27	1.78	2.04	2.64	2.27	1.81	2.50	1.91	1.80	2.13	1.19	25.4
September .	1.52	1.04	1.97	1.75	1.89	1.24	1.61	.99	.96	1.55	1.74	30.7
October .	4.85	4.23	6.17	5.07	4.61	4.85	3.38	3.26	3.02	4.19	4.24	79.5
November .	2.72	2.61	3.66	3.36	3.01	2.90	3.01	2.71	2.28	3.16	3.31	59.7
December .	1.58	1.52	1.74	1.26	1.09	1.05	1.45	1.13	.92	1.06	1.63	28.5
Year .	26.30	23.99	36.35	32.11	31.04	28.74	28.77	24.99	24.47	30.43	29.12	575.7

TREASURER'S FINANCIAL STATEMENT FOR YEAR ENDING 30th SEPTEMBER 1939

PAYMENTS.

APPROXIMATE BALANCE SHEET.

LIABILITIES.		
McNeill's Estimated Account for Proceedings	£96 0 0	2 £80 War Savings Certificates
Approximate Balance in Club's favour at date	79 10 1	Amount in Bank 30th Sept. 1939, Current Account
	<hr/>	<hr/>
	£175 10 1	£160 0 0
		15 10 1
		<hr/>
		£175 10 1



THE BERWICKSHIRE NATURALISTS' CLUB RULES AND REGULATIONS.

(Founded September 2nd, 1831.)

BADGE : WOOD SORREL.

MOTTO : " MARE ET TELLUS, ET, QUOD TEGIT OMNIA, CÆLUM."

1. The name of the Club is The Berwickshire Naturalists' Club (1831).
2. The object of the Club is to investigate the natural history and antiquities of Berwickshire and its vicinage (1831).
3. All interested in these objects are eligible for membership (1831).
4. The Club consists of (*a*) Ordinary Members, (*b*) Contributing Libraries and Societies, (*c*) Corresponding Members, eminent men of science whom the Club desires to honour (1883), (*d*) Honorary Lady Members, and (*e*) Associate Members, non-paying members who work along with the Club (1883).
5. New members are elected at any meeting of the Club by the unanimous vote of members present, the official forms having been duly completed, and the nominations having been approved by the officials of the Club. New members are entitled to the privileges of membership upon payment of the entrance and membership fees (1922), concerning which they will be duly notified (1937). If elected in September such member is eligible to attend the Annual Meeting for the year, no fees being due before 1st January (1937). The names of new members who have not taken up membership within six months of election, and after having received three notices, will be removed from the list (1925). The Club rules and list of members at date are sent on election (1937).

6. The entrance fee is 20s. (1937), and the annual subscription 10s. (1920). These are both due on election. Subsequent subscriptions are due after the annual business meeting, and entitle members to attend the meetings and to receive a copy of the Club's *History* for the ensuing year (1925). No fees or subscriptions should be sent until requested by the Treasurer (1937).
7. The number of Ordinary Members is limited to 400. The names of candidates are brought forward in priority of application, power being reserved to the President to nominate independently in special cases, irrespective of the number of members on the Roll (1884).
8. The *History* of the Club is issued only to members who have paid their year's subscription. Names of members who are in arrears for two years will be removed from the list after due notice has been given to them (1886).
9. The Club shall hold no property (1831), except literature (1906).
10. The Office-Bearers of the Club are a President, who is nominated annually by the retiring President; a Vice-President (1932), an Organising Secretary, an Editing Secretary, a Treasurer, and a Librarian, who are elected at the annual business meeting (1925), and who shall form the Council of the Club (1931), with in addition one lady and one gentleman co-opted by the Council as members of the Council to serve for the ensuing year. They will retire at the Annual Meeting, but being eligible can offer themselves for re-election (1937).
11. Expenses incurred by the Office-Bearers are refunded. The Secretary's expenses, both in organising and attending the meetings of the Club, may be defrayed out of the funds (1909).
12. Five monthly meetings are held from May till September (1831). The annual business meeting is held in the beginning of October. Extra meetings for special purposes may be arranged (1925).
13. Notices of meetings are issued to members at least eight days in advance (1831).
14. Members may bring guests to the meetings, but the notices of meeting are not transferable (1925). Guests may only attend when accompanied by members (1937).

15. At Field Meetings no paper or other refuse may be left on the ground. All gates passed through must be left closed (1925). No dogs are allowed (1932).
16. Members omitting to book seats for meals or drives beforehand must wait till those having done so are accommodated (1925).
17. Contributors of papers to the *History* receive five extra copies.
18. The Secretary must be notified of any suggested change in Rules not later than the 14th of September in each year, all members having not less than ten days' notice of such (1937).

"RULE FIRST AND LAST."

“Every member must bring with him good humour, good behaviour, and a good wish to oblige. This rule cannot be broken by any member without the unanimous consent of the Club” (1849)—“Correspondence of Dr George Johnston,” p. 414 (Founder and first President of the Club).

THE LIBRARY.

The Library of the Club is at 2 Bankhill, Berwick-upon-Tweed. It contains a complete set of the Club's *History*, publications of kindred Societies, and other local and scientific literature. The keys may be had from Mr John Smith, 129 High Street, Berwick-upon-Tweed, in whose premises the Club Room is situated. Such keys must be signed for at time of issue, and any Part or Parts of the Club's *History* taken out on loan must also be entered in the book kept for the purpose. Extra copies (above three) of the Club's *History* are to Members, 3s. 6d. per part up to 1920 ; to Non-members, 6s. (1906). From 1921 to 1933, to Members, 6s. ; to Non-members, 10s. (1921). From 1934 until further notice, to Members, 5s. ; sister Societies and Libraries, 2s. 6d. ; to Non-members, 7s. 6d. (1937). Centenary Volume and Index, 10s. (1932). Future prices to be adjusted by the Council from time to time in accordance with cost (1934). (When only one copy of year is in stock, it is not for sale.—F. M. Norman, Secy., 20/8/1906.)

THE PINK SLIP.

B.N.C., 1939.

1. Members are reminded that under Rule 16 no dogs are allowed at meetings.
2. Care should be taken that no paper or other refuse be left on the ground, and that wickets and gates be closed.
3. Smokers are requested to see that matches and cigarette ends are extinguished before throwing away, especially in woods.
4. During talks, members are asked to form a wide circle round the speaker, to enable everyone to hear.
5. When the attention of members is desired, the Secretary will sound the Horn.
6. The President's car (or car selected by the Secretary in his absence) will carry the Club Flag, and members are asked not to pass or get in front of this car, unless they are leaving the meeting.
7. Dr Johnston's "Rule First and Last"— "Every member must bring with him good humour, good behaviour, and a good wish to oblige."

THE BERWICKSHIRE NATURALISTS' CLUB.

LIST OF MEMBERS, 30th September 1939.

Those marked with an Asterisk are Ex-Presidents.

LIFE MEMBERS.

	Date of Admission.
Craw, Mrs A. M.; 5 Merchiston Gardens, Edinburgh, 10	1933
Hope, Miss M. I.; 19 Chesterton Lane, Cirencester	1913

ORDINARY MEMBERS.

Agnew, Col. H. C.; Bonjedward House, Jedburgh	1938
Aitchison, Mrs A. L.; Hyndsidehill, Gordon, Berwickshire	1930
Aitchison, Mrs B. H.; 15 Frogstone Road West, Edinburgh, 10	1919
Aitchison, Walter de Lancey; M.A.; Coupland Castle, Wooler	1933
Aiton, Mrs Scott; Legerwood, Earlston	1936
Allan, John; M.A., F.S.A.; British Museum, London, W.C.1	1920
*Allhusen, S. D.; Tuggal Grange, Chathill, Northumberland	1934
Allhusen, Mrs K. R.; do. do.	1923
Anderson, Lady; Yair, by Galashiels	1929
Angus, T. C.; Rosybank, Coldstream	1933
Angus, W.; Record Office, General Register House, Edinburgh	1910
Archer, Joseph E.; Eastacres, Alnwick	1920
 Baillie, John; British Linen Bank House, Duns	 1925
Baillie, Mrs Meta; Harleyburn, Melrose	1924
Ballard, G. H.; M.Sc.; 2 Bay Terrace, Berwick-upon-Tweed	1934
Barker, Rev. Joseph Hudson; The Vicarage, Norham	1936
Bate, Mrs M. J.; Linthorpe, 31 Castle Terrace, Berwick-upon-Tweed	1938
Bell, Mrs M. L.; Northfield, St Abbs	1922
Bell, Robert B.; do. do.	1923
Bell, Rev. Wm. N.; M.A.; 37 Oakfield Avenue, Glasgow, W. 2	1914
Bertram, George William; 12 Corrennie Gardens, Edinburgh, 10	1930
Biddulph, Sir Theophilus George; Bart.; The Pavilion, Melrose	1930
Biddulph, Lady; do. do.	1926
Bishop, Mrs John; 1 Summerhill Terrace, Berwick-upon-Tweed	1925
Black, Mrs E. A.; Adderstone House, Berwick-upon-Tweed	1935
Blackett-Ord, Miss M.; Denwick House, Alnwick	1929

LIST OF MEMBERS

	Date of Admission.
Blackie, J. J.; Ph.D., A.I.C., F.C.S.; 104 Holyrood Road, Edinburgh	1935
*Blair, C. H. Hunter; M.A., F.S.A.; 57 Highbury, Newcastle upon Tyne	1918
Blair, Miss J. I. H.; Abbey Green, Jedburgh	1932
Blyth, Miss M. A.; Garden Close, Sidestrand, Cromer, Norfolk	1931
Bolam, A. C.; 58 Ravensdowne, Berwick-upon-Tweed	1934
Bolam, Miss E. S.; Tynebridge, Alston, Cumberland	1935
Bonnar, William; 51 Braid Avenue, Edinburgh	1930
Bosanquet, Mrs Ellen S.; Rock Moor, Alnwick	1934
Boxwell, Philip Reginald; Fairlaw, Reston, Berwickshire	1930
Boxwell, Mrs H. T.; do. do.	1932
Boyd, Rev. Halbert J.; Yarrowlea, Selkirk	1935
Boyd, Commander John G.; Whiterigg, St Boswells	1939
Boyd, Miss Jessie B.; Faldonside, Melrose	1905
Brackenbury, Mrs W. I.; J.P.; Tweedhill, Berwick-upon-Tweed	1934
Briggs, Miss Margaret; Thornington, Mindrum	1936
Broomfield, A. E.; Struan, St Boswells	1938
Brough, John; The Parade, Berwick-upon-Tweed	1938
Brown, John; Southcote, Berwick-upon-Tweed	1925
Brownlow, Mrs W.; Swansfield House, Alnwick	1936
Bruce, Miss F.; Easter Langlee, Galashiels	1938
Buist, A. A.; Kirkbank, Roxburgh, Roxburghshire	1937
Buist, Mrs M. E.; Kirkbank, Roxburgh, Roxburghshire	1937
Cairns, Mrs J.; Chainbridge House, Horncliffe-on-Tweed	1937
Calder, Mrs Mary A. H.; Marigold, Chirnside	1923
Calder, Mrs J.; Skaithmuir, Coldstream	1937
Callen, Rev. Richard; M.A., LL.B.; The Manse, Westruther, by Gordon, Berwickshire	1935
Cameron, Miss Elizabeth W.; Trinity, Duns	1912
Cameron, Mrs M. C.; Brunton, Christon Bank, Alnwick	1930
Carr, Joseph Wm.; Homecroft, Horncliffe, Berwick-upon-Tweed	1926
Carr, Miss Eleanor M.; do. do.	1928
Carr, Robert; The Elms, Berwick-upon-Tweed	1890
Caverhill, Miss H. F. M.; 2 Ravensdowne, Berwick-upon-Tweed	1923
Chartres, Mrs Mary; Mindrum, Northumberland	1930
Clark, J. H.; Market Place, Rothbury	1933
Clark, Wm. Donald; West Ord, Berwick-upon-Tweed	1926
Clarke, Commander H. C. C.; R.N., D.S.O.; Clint Lodge, St Boswells	1938
Clarke, Mrs E. L. C.; Clint Lodge, St Boswells	1938
Clay, A. Thomson; W.S.; 18 South Learmonth Gardens, Edinburgh, 4	1930
Clay, Miss B. A. Thomson; do. do.	1939
Clay, Miss P. Thomson; do. do.	1939
Clelland, Miss Amy Fenwicke; Dunstan House, Alnwick	1925
Clelland, Miss C. M. Fenwicke; Glanton, Northumberland	1925
Cockburn, J. W.; Whiteburn, Grantshouse	1925

LIST OF MEMBERS

7

	Date of Admission.
Coetlogon, Mrs Jane de; Embleton, Alnwick	1933
Collingwood, John C.; Cornhill House, Cornhill-on-Tweed	1902
Cookson, Harold; Renton House, Grantshouse	1930
Cowan, Mrs Allister; Eastfield, Bowden, St Boswells	1929
Cowan, Henry Hargrave; The Roan, Lauder	1931
Cowan, Mrs Janet Eman; do. do. do.	1931
Cowe, Robert Crowe; Butterdean, Grantshouse	1920
Craigmyle, The Lady; 20 Lowndes Square, London, S.W. 1	1934
Craigs, Robert; Reservoir Cottage, Catecleugh, Otterburn, Newcastle-on-Tyne	1925
Craster, Miss Mary H.; Tuggal Grange, Chathill	1935
Craw, H. A.; 5 Merchiston Gardens, Edinburgh, 10	1933
Cresswell, H. G. Baker; Preston Tower, Chathill, Northumberland	1939
Cresswell, Mrs; Hauxley Hall, Amble, Northumberland	1923
Croal, Mrs; Thornton, Berwick-upon-Tweed	1928
*Crockett, Rev. W. S.; D.D.; The Manse, Tweedsmuir, by Biggar	1916
Crockett, Mrs W. S.; do. do. do.	1936
Curle, F. R. N.; Greenyards, Melrose	1904
*Curle, James; LL.D., F.S.A.; St Cuthberts, Melrose	1893
Danford, Miss A. B.; Hawthornden, St Boswells	1931
Darling, Adam D.; The Friars, Bamburgh	1923
Darling, Alex.; Governor's House, Berwick-upon-Tweed	1900
Darling, R. Stormonth; W.S.; Rosebank, Kelso	1936
Davidson, Mrs M.; Kildonan, Yetholm, Kelso	1929
Davidson, Mrs William; Mansefield, Kelso	1937
Davison, Will, B.; 1 West Avenue, Gosforth, Newcastle upon Tyne	1934
Deans, John H.; Pitcox, Dunbar	1923
Dey, Alex.; M.B., C.M.; Millvale, Wooler	1909
Dickinson, Mrs A. H.; Adderburns, near Chirnside, Berwickshire	1933
Dickson, Miss A.; Woodhouse, Dunscore, Dumfriesshire	1938
Dickson, A. H. D.; C.A.; 15 Woodlands Terrace, Glasgow	1925
Dickson, Mrs Marjorie B.; 7 Doune Terrace, Edinburgh, 3	1929
Dickson, W. S.; 6 Circus Gardens, Edinburgh, 3	1933
Dodds, Ralph Herbert; M.C., F.G.I.; Avenue House, Berwick- upon-Tweed	1903
Douglas, Rev. J. L.; Manse of Eccles, Greenlaw	1928
Douglas, Wm. Sholto; Mainhouse, Kelso	1922
Douglas, Mrs W. S.; do. do. do.	1925
Duncan, John Bishop; 6 Summerhill Terrace, Berwick-upon-Tweed	1923
Dunlop, Mrs Clementina; Whitmuir, Selkirk	1933
Eardley-Wilmot, Mrs; 24 Thurloe Square, London, S.W. 7	1938
Easton, Wm. R.; Summerside, Jedburgh	1923
Elliot, Miss Euphemia Moffat; Balnakiel, Galashiels	1930
Elliot, Miss G. A.; Birgham, Coldstream	1936
Elliot, Mrs Walter; Harwood, Hawick	1939

LIST OF MEMBERS

	Date of Admission.
Elliot, Wm. Marshall ; High Street, Coldstream	1909
Elliot, W. R.; Birgham, Coldstream	1936
Erskine, Mrs Margaret C.; The Anchorage, Melrose	1907
*Evans, A. H.; Sc.D., F.Z.S.; Cheviot House, Crowthorne, Berks	1875
Fairfax, Miss F. Ramsay; Ruletownhead, by Hawick	1931
Falconer, Mrs Agnes W.; Auchencrow Mains, Reston	1925
Falconer, Allan A.; Elder Bank, Duns	1921
Ferguson, Miss J. J.; Ellem Cottage, Duns	1937
Fleming, Mrs; British Linen Bank House, Berwick-upon-Tweed	1926
Forster, C. P.; M.A.; 1 Quay Walls, Berwick-upon-Tweed	1934
Forster, Major C. M.; O.B.E., T.D.; Etherston, Bamburgh	1938
Forster, Mrs C. M.; do. do.	1938
Fraser, Rev. D. D.; M.A.; The Manse, Sprouston, Roxburghshire	1922
Fraser, William; 212 Causewayside, Edinburgh	1928
Furness, Sir Christopher; Bart.; Netherbyres, Ayton, Berwickshire	1932
Gamble, Miss M.; Roselea, Kelso	1939
Garden, Miss Margaret; 9 North Terrace, Berwick-upon-Tweed	1928
Gibb, Miss Margaret L. Shirra; The Loanin, Lauder	1921
Gilchrist, Captain W. H.; 6 Churchill, Edinburgh, 10	1938
Gillieson, Rev. T. G.; Manse of Bonkyl, Duns	1939
Glegg, Andrew H.; W.S.; Maines, Chirnside	1924
Glegg, Mrs Jessie; do. do.	1928
Gooderham, Rev. H. B.; The Rectory, North Berwick	1934
Gray, Miss Mary; 4 Bankhill, Berwick-upon-Tweed	1925
Greet, Miss Constance H.; J.P.; New Haggerston, Beal	1907
Grieve, Miss Jessie C.; Anchorage, Lauder	1924
Gunn, Rev. Peter B.; The Manse, Roxburgh	1923
Haggerston, Sir Carnaby De Marie; Bart.; Ellingham Hall, Chathill, Northumberland	1937
Halliburton, T. Colledge; Brae Villa, Jedburgh	1920
Hardy, Mrs Emily W.; 12, The Dunterns, Alnwick	1939
Harrison, Mrs B.; Levenlea, Selkirk	1937
Hastie, Alex.; Ravelston, Chirnside	1937
Haward, Tristram W. M. A.; Abbey Lands, Alnwick	1939
Hay, Mrs; Duns Castle, Duns	1902
Hayward, Miss Ida M.; F.L.S.; 7 Abbotsford Road, Galashiels	1924
Henderson, J. D.; Middleton, Belford, Northumberland	1937
Henderson, T. S.; Brig House, Kelso	1936
Herbert, H. B.; M.A.; The Cottage, Fallodon, Christon Bank, Alnwick	1921
Herriot, Miss Jean M.; West Croft, East Ord, Berwick-upon-Tweed	1926
Hilson, Oliver; J.P.; Liberal Club, Galashiels	1894
Hodgkin, Mrs Catherine; Old Ridley, Stocksfield	1923

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	Date of Admission.
Hogarth, George Burn ; Foulden Hill, Berwick-upon-Tweed	1931
Hogarth, George Gilroy ; Commercial Bank, Ayton	1922
Hogg, John ; Roselea, Kelso	1925
Holderness-Roddam, Mrs Helen M. G.; Roddam Hall, Wooperton, Northumberland	1926
Holmes, Miss Janet McCallum ; Bridge Street, Berwick-upon- Tweed	1925
Home, The Rt. Hon. The Earl of ; The Hirsel, Coldstream	1915
Home, George ; The Links, St Giles Hill, Winchester	1929
Home, Miss H. M. Logan ; Silverwells, Coldingham, Berwickshire	1927
*Home, Sir John Hepburn Milne ; Irvine House, Canonbie, Dumfriesshire	1898
Home, Lady Milne ; Irvine House, Canonbie, Dumfriesshire	1930
Home, Miss Sydney Milne ; The Cottage, Paxton, Berwick-upon- Tweed	1924
Home, Lt.-Col. William M. Logan ; Edrom House, Edrom	1936
Hood, James ; Linhead, Cockburnspath	1932
Hood, T. ; Linhead, Cockburnspath	1937
Hope, Wm. Weston ; Braehead, St Boswells	1931
Hope, Mrs M. D. ; do. do.	1931
Hornby, C. W. ; 35 Northumberland Road, Tweedmouth, Berwick- upon-Tweed	1933
Horsburgh, Mrs E. M. ; Hornburn, Ayton	1939
Howard, Mrs Mary L. ; Percy House, Alnwick	1939
Hull, Rev. J. E. ; Belford Vicarage, Northumberland	1931
Hunter, Edward ; Wentworth, Gosforth, Newcastle upon Tyne	1907
Hunter, Mrs ; Anton's Hill, Coldstream	1924
*James, Captain F. ; Beech Grove, Ascot, Berks	1901
Jardine, Mrs A. S. H. ; Chesterknowes, by Selkirk	1933
Jeffrey, Mrs D. M. ; Ovenscloss, Galashiels, Selkirkshire	1935
Johnson, Miss E. G. ; 7 Marygate, Berwick-upon-Tweed	1937
Johnson, Miss Eva E. R. ; M.A. ; 7 Marygate, Berwick-upon-Tweed	1937
Johnson, John Bolam ; C.A. ; 13 York Place, Edinburgh	1918
Johnston, Robert G. ; O.B.E. ; Solicitor ; Duns	1907
Keenlyside, Ronald ; 10 Bondgate Without, Alnwick	1933
Kelly, Henry ; Bellshill, Belford, Northumberland	1937
Kelly, Mrs Maud ; do. do.	1937
Lake, John Romans ; East Ord, Berwick	1925
Lamb, Rev. Geo. ; Beechwood, Melrose	1939
Leadbetter, James G. Greenshields ; Spital Tower, Denholm	1931
Leadbetter, Mrs E. M. G. ; Knowesouth, Jedburgh	1932
Leadbetter, Miss S. ; do. do.	1937
*Leather, Colonel G. F. T. ; F.R.G.S. ; Middleton Hall, Belford	1889
Leather, Mrs Margaret Ethel ; do. do.	1919

	Date of Admission,
Leather, Miss R. M.; Moorswood Cottage, Herons Ghyll, Uckfield, Sussex	1920
Lillingston, Com. H. W. I.; R.N.; Horncliffe House, Berwick-upon-Tweed	1925
Lindsay Mrs; Arrabury, Ayton	1924
Little, Mrs Nora ; Crotchet Knowe, Galashiels	1923
Little, Mrs ; Mousen Hall, Belford	1929
Loch, Colonel J. Carysfort; C.B.E.; House of Narrow Gates, St Boswells	1936
Loch, Mrs H. G. M.; House of Narrow Gates, St Boswells	1939
Lockton, Rev. P. S.; Leabraise, Melrose	1913
Low, Miss K. M.; Bridgeland, Selkirk	1935
Lyal, Miss M. M.; Old Greenlaw, Greenlaw, Berwickshire	1935
Lyal, Mrs David; Cammerlaws, Gordon	1939
Lyal, Mrs Robert; Southdean, Hawick	1925
Lynch-Staunton, Mrs H. G.; Cawderstanes, Berwick-upon-Tweed	1937
Mabon, John Thos. ; 48 Castlegate, Jedburgh	1923
Macalister, Rev. R. H.; St James Manse, Yetholm, Kelso	1931
Macalister, Mrs Isabel; do. do.	1931
M'Callum, Rev. Wm. ; M.A.; The Manse, Makerstoun, Kelso	1917
M'Cracken, Dr J. S.; South View, Ormiston Terrace, Melrose	1929
M'Creadh, Rev. J. F. ; M.A.; The Manse, Mertoun, St Boswells	1923
M'Creadh, Mrs ; do. do.	1923
McCreadh, Mrs H. R.; Gainslaw House, Berwick-upon-Tweed	1928
McCreadh, Mrs W. R.; Cheviot House, Castle Terrace, Berwick	1939
M'Donald, Dr D. T.; South Bank, Belford, Northumberland	1937
M'Dougal, Capt. Arthur R. ; Blythe, Lauder	1920
M'Dougal, Mrs H. Maud; do. do.	1939
M'Ewen, Mrs B.; Marchmont, Greenlaw	1936
*M'Ewen, Capt. John Helias F. ; M.P.; Marchmont, Greenlaw	1931
M'Keachie, Rev. Alfred ; M.A.; The Manse, Chirnside	1923
M'Whir, Mrs M. H.; 7 Albert Terrace, Edinburgh, 10	1938
Maddan, James G.; Aldon House, West Malling, Kent	1922
Makdougall, Mrs A. Scott; Gala House, Galashiels	1939
Maling, Mrs Hilda Margaretta ; Twizell House, Belford	1930
Marr, James ; M.B., C.M. ; Ivy Lodge, Greenlaw	1898
Marshall, Wm. James ; Northumberland Avenue, Berwick-upon-Tweed	1904
Martin, Charles Picton ; Broomhouse, Duns	1925
Martin, Mrs; do. do.	1925
Martin, Miss K. A. ; Ord Hill, Berwick-upon-Tweed	1921
Martin, Mrs M. ; Friars Hall, Melrose	1929
Meikle, John ; Langrigg, Whitsome, Chirnside	1925
Menzies, Lieut.-Col. Chas. T. ; Kames, Greenlaw	1905
Middlemas, Robert ; Barndale House, Alnwick	1898
Middlemas, Mrs Catherine ; do. do.	1928
Middlemas, R. J. ; M.A. ; Prudhoe Croft, Alnwick	1928

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	Date of Admission,
Milburn, Sir Leonard J.; Bart.; Guyzance, Acklington	1927
Mills, Fred; Mayfield, Haddington	1916
Mills, George H.; Buxley, Duns	1924
Minchin, Mrs K. W.; c/o Col. Molesworth; C.I.E., C.B.E., I.M.S.; Cruicksfield, Duns, Berwickshire	1938
Mitchell, Miss Alice; Chiefswood, Melrose	1933
Mitchell, Major C.; C.B.E., D.S.O.; Pallinsburn, Cornhill-upon-Tweed	1938
Mitchell, Mrs C.; Pallinsburn, Cornhill-upon-Tweed	1938
Molesworth, Col. F. C.; Culworth, Bideford, Devon	1938
Molesworth, Col. Wm.; C.I.E., C.B.E., I.M.S.; Cruicksfield, Duns	1923
Molesworth, Mrs Winifred Ann; do. do.	1923
Muir, Mrs Alice C.; Ettrickshaws, Selkirk	1934
Muir, Mrs E. M. Temple; Inchdarnie, St Boswells, Roxburghshire	1923
Muir, Miss Margaret; Ettrickshaws, Selkirk	1937
Napier, G. G.; M.A.; Strathairly, 22 Braidburn Terrace, Edinburgh, 10	1901
Neilson, W. K.; Lintalee, Jedburgh	1933
Neilson, Mrs; do. do.	1933
Newbigin, E. R.; J.P.; 4 Tankerville Terrace, Newcastle upon Tyne	1928
Ogg, James E.; Cockburnspath	1921
Oliver, Mrs Katharine; Edgerston, Jedburgh	1924
Otto, Miss Jane Margaret; Grey Crook, St Boswells	1931
Pape, Victor; Grindon Corner, Norham-on-Tweed	1939
Pape, Miss D. C.; do. do.	1933
Pape, Mrs E. M.; do. do.	1937
Parker, Frederick; "Cabra," 12 Castle Terrace, Berwick-upon-Tweed	1936
Pate, Mrs; Horseupcleugh, Longformacus	1928
Paterson, James; Castlegate, Berwick-upon-Tweed	1927
*Paton, Rev. Henry; M.A.; Inchewan, Peebles	1897
Pearson, Mrs; Otterburn, Kelso	1921
Peters, H.; Solicitor; Berwick-upon-Tweed	1938
Petrie, Charles Strachan; Solicitor; Duns	1920
*Piddocke, Rev. M. M.; Kirknewton Vicarage, Northumberland	1912
Playfair, Mrs M. J.; Wester Park, Coldstream	1937
*Plummer, Major Charles H. Scott; Sunderland Hall, Galashiels	1892
Plummer, Mrs Scott; do. do.	1928
Pool, G. D.; Underwood, Beechfield Road, Gosforth, Newcastle upon Tyne	1936
Porteous, Andrew Mather, Jun.; Easterhill, Coldstream	1923
Prentice, Mrs B. J.; Tweedsyde, Berwick-upon-Tweed	1937
Pringle, Mrs; Torwoodlee, Galashiels	1932
Purves, Thomas; 18 Castle Terrace, Berwick-upon-Tweed	1923

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	Date of Admission.
Ramsay, Douglas Monro ; Bowland, by Galashiels	1931
Ramsay, Miss E. Lucy ; Stainrigg, Coldstream	1923
Renton, Miss Agnes F. ; Linthorpe, Castle Terrace, Berwick-upon-Tweed	1936
Renton, Miss Mima ; Linthorpe, Castle Terrace, Berwick-upon-Tweed	1936
Riddell, Mrs E. E. ; Sanson Seal, Berwick-upon-Tweed	1929
Riddell, Mrs Alice B. ; Osborne House, Tweedmouth	1939
Ritch, D. T. ; British Linen Bank, North Berwick	1936
Ritchie, Mrs Ishbel Juliet ; The Holmes, St Boswells	1926
Ritchie, Rev. John ; B.D. ; The Manse, Gordon, Berwickshire	1916
Roberts, Mrs Agnes A. ; Wellwood, Selkirk	1928
Robertson, Wm. ; Stamford, Alnwick	1923
Robson, Col. The Hon. H. B. ; Pinewood Hill, Witley, Surrey	1926
Robson, Mrs ; Seacraig, St Aidans, Seahouses	1932
Robson-Scott, Miss Marjorie ; Newton, Jedburgh	1918
Rodger, David ; Muircleugh, Lauder	1920
Rodger, Miss Jane B. ; Williambank, Earlston	1939
Romanes, C. J. L. ; W.S. ; Norham Lodge, Station Road, Duns	1908
Rose, Rev. Wm. D. O. ; M.A. ; The Manse, Tullibody, Alloa	1921
Ross, Stewart ; 1 Thistle Court, Edinburgh, 2	1924
Ross, Mrs Jane C. B. ; Langlea, Castle Terrace, Berwick	1938
Ross, Mrs Jean A. ; do. do.	1938
Runciman, Miss E. ; Eastmains, Lauder, Berwickshire	1937
Runciman, Viscountess ; Doxford, Chathill, Northumberland	1934
Runciman, Miss Mary ; Shoreston Hall, Seahouses	1939
Russell, G. A. ; The Crooks, Coldstream	1923
Rutherford, Mrs C. H. ; Woodburn, Galashiels	1937
Rutherford, W. ; Boleside House, Galashiels	1933
Sanderson, C. W. ; Birnieknowes, Cockburnspath	1937
Sanderson, Mrs F. B. ; Wayside, Ayton	1925
Sanderson, J. Martin ; Linthill, Melrose	1929
Sanderson, Mrs ; do. do.	1929
Scott, James Cospatrick ; Broomlands, Kelso	1921
Scott, Miss A. ; Spylaw, Kelso	1932
Scott, Mrs F. M. ; Huntlyburn, Melrose	1935
Scott, The Hon. Walter T. Hepburne ; Master of Polwarth ; Harden, Hawick	1926
Scott-Kerr, Lieut.-Col. Francis L. ; Ashby, Melrose	1924
Scrymgeour, The Rev. J. Tudor ; Manse of Ladykirk, Norham	1928
Sharp, James ; Heriot Mill, Heriot, Midlothian	1923
Sharpe, Major Robert W. ; The Park, Earlston	1922
Shed, A. R. ; Elmbank, Ayton	1935
Shelford, Mrs P. W. ; The Duke's School, Alnwick	1930
Shirreff, Charles R. ; Southfield, Longniddry, East Lothian	1931
Short, Mrs Eva D. ; Old Graden, Kelso	1927
Short, Thomas B. ; Warenlee, Belford, Northumberland	1888

LIST OF MEMBERS

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	Date of Admission.
Sidey, Mrs A. R.; 14 Ravensdowne, Berwick	1931
Simpson, Mrs Dorothy ; 9 Doune Terrace, Edinburgh, 3	1922
Simpson, J. P.; Beechcourt, Collington Rise, Collington, Bexhill-on-Sea	1932
Simpson, Richard H.; Hillcrest, Alnwick, Northumberland	1897
Smail, Henry Richardson ; 4 Ravensdowne, Berwick-upon-Tweed	1919
Smith, Mrs Ida Florence ; Whitchester, Duns	1915
Smith, James R. C. ; Darnick, Melrose	1890
Smith, John ; Old Gala House, Galashiels	1931
Smith, John Darling ; Peelwalls, Ayton	1925
Smith, Mrs ; do. do.	1925
Smith, J. E. T.; 3 Castle Terrace, Berwick-upon-Tweed	1925
Smith, R. Colley; Ormiston House, Roxburgh	1892
Smith, Miss Wilson; Pouterlany, Duns	1925
Spark, William ; Ellangown, Melrose	1923
Spark, Mrs Lilius C. ; do. do.	1925
Spiers, Henry ; M.D., F.R.C.S.Ed.; St Dunstan's, Melrose	1925
Sprot, Mrs M.; Riddell, Lilliesleaf, Melrose	1933
Sprung, Mrs B. R.; 52 Ravensdowne, Berwick-upon-Tweed	1937
Steele, Dr Patrick; The Hermitage, Melrose	1937
Steele, Mrs E.; do. do.	1937
Steven, Alex. Cockburn Allison; "St Duthus," Berwick-upon-Tweed	1924
Stevenson, Hew; Tuggal Hall, Chathill	1938
Stevenson, Mrs A. V. ; do. do.	1925
Stevenson, Miss Sheila ; do. do.	1925
Stewart, Mrs J. B.; Faughhill, St Boswells	1934
Stirling, Miss B. M. A.; Westwood House, Reston, Berwickshire	1933
Stodart, Charles ; Leaston, Humbie, East Lothian	1916
Stoddart, Miss A. Y.; Kirklands, Melrose	1933
Sutherland, Miss Helen; Cockley Moor, Dockray, Penrith, Cumberland	1932
Sutherland, Mrs M. C. D.; Northfield, Lowick, Berwick-upon-Tweed	1935
Swan, Mrs A. G.; Harelaw, Chirnside	1937
Swinton, Lieut.-Col. Alan H. C.; Kimmerghame, Duns	1939
Swinton, Rev. Alan Edulf; M.A.; Swinton House, Duns	1915
Swinton, Mrs Alan E. ; do. do.	1923
Sym, Rev. A. P. ; D.D.; 18 Wester Coates Gardens, Edinburgh, 12	1895
Tait, Alexander ; Coldingham	1923
Tait, T. M'Gregor ; 45 Woolmarket, Berwick-upon-Tweed	1923
Tancred, Mrs D. H. E.; Old Free Manse, Crailing, Jedburgh	1938
Tankerville, Lady; Chillingham Castle, Wooler	1939
Taylor, E. E. P. ; Pawston, Mindrum	1923
Taylor, Miss G. Ross; Mungoswalls, Duns	1934
Thin, James H. ; 54 South Bridge, Edinburgh, 1	1883
Thomson, Mrs A. D. ; Nenthorn, Kelso	1928

LIST OF MEMBERS

	Date of Admission.
Thomson, Mrs Moffat; Lambden, Greenlaw	1934
Thomson, Miss Nora; Millfield House, Jedburgh	1937
Thorp, Collingwood F. ; B.A. ; Narrowgate House, Alnwick	1923
Threipland, P. W. Murray ; Dryburgh Abbey, St Boswells	1924
Threipland, Mrs Eleanor Murray ; do. do.	1929
Trevelyan, Mrs M. E. ; The Old Manse, Yetholm, Kelso	1937
Tuke, Mrs Ellen M. ; Hundalee Cottage, Jedburgh	1932
Turner, Mrs Grey; Hunterscombe Manor, near Taplow, Bucks	1933
Tweedie, James ; 10 Warkworth Terrace, Berwick-upon-Tweed	1920
Tytler, Mrs Christian Alice Fraser ; Sunlaws, Roxburgh	1921
Usher, Lady ; Wells, Hawick	1920
Usher, Miss Gertrude ; Shirrafield, Yetholm, Kelso	1924
Vallance, George; Cumledge Mills, Duns	1934
Veitch, Mrs David A. ; Barniken, Duns	1927
Veitch, James ; Inchbonny, Jedburgh	1899
Villiers, Mrs S. D. F. ; Adderstone Hall, Belford	1925
Waddell, Mrs Evelyn ; Palace House, Jedburgh	1931
Walker, Maxwell; Springwells, Greenlaw	1932
Watherston, Mrs R. H.; Menslaws, Jedburgh	1939
Watson, John S. ; Easter Softlaw, Kelso	1921
Watson, Miss M.; Lurdenlaw, Kelso	1932
Wattison, A.; M.B., C.H.B.; 26 Ravensdowne, Berwick	1939
Webb, Charles; Longhorsley Tower, Longhorsley, Morpeth	1928
Whinham, John ; 3 Grosvenor Terrace, Alnwick	1913
Wight, Miss E. M.; Ecclaw, Cockburnspath	1931
Wilkinson, Rev. Geo. R. ; The Glebe, Bamburgh	1939
Wilson, W. A. ; Sandy Lodge, Friar's Cliff, near Christchurch, Hants	1922
Wood, Frank W.; Dochfour, Strathyre, Perthshire	1924
Wood, Miss Marguerite; 13 Learmonth Gardens, Edinburgh, 4	1939
Wyllie, Miss Catherine Scott ; Whitelee, near Galashiels	1920
Younger, Mrs Wm. ; Ravenswood, St Boswells	1920

HONORARY MEMBERS.

Brown, Miss Helen M. ; Longformacus House, Duns
 Home, Miss Jean Mary Milne ; The Cottage, Paxton
 Warrender, Miss Margaret ; 50 Wilton Crescent, London, S.W.

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	Date of Admission.
Taylor, George ; Elder Bank, Cockburnspath	1920
White, Adam; The Grange, Reston	1928

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 Newcastle upon Tyne
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 Stafford Street, Edinburgh, 3
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 The Hawick Archæological Society, Wilton Lodge, Hawick

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The Border Standard; Galashiels
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 H. F. M. Caverhill (Miss); 2 Ravensdowne, Berwick-upon-Tweed. (Berwick 292.) } *Co-opted Members*.

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 Crockett, Rev. W. S.; D.D.; The Manse, Tweedsmuir, by Biggar
 Curle, James; LL.D., F.S.A.; St Cuthberts, Melrose
 Evans, A. H.; Sc.D., F.Z.S.; Cheviot House, Crowthorne, Berks
 Home, Sir John Hepburn Milne; Irvine House, Canonbie, Dumfriesshire
 James, Captain F.; Beech Grove, Ascot, Berks
 Leather, Col. G. F. T.; F.R.G.S.; Middleton Hall, Belford
 McEwen, Capt. John Helias F.; M.P.; Marchmont, Greenlaw
 Paton, Rev. Henry; M.A.; Inchewan, Peebles
 Piddocke, Rev. M. M.; Kirknewton Vicarage, Northumberland
 Plummer, Major Charles H. Scott; Sunderland Hall, Galashiels



4 APR 1940

HISTORY
OF THE
BERWICKSHIRE
NATURALISTS' CLUB

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HISTORY OF THE BERWICKSHIRE NATURALISTS' CLUB.

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PROCEEDINGS
OF THE
BERWICKSHIRE NATURALISTS' CLUB

Reports of Meetings for the Year 1946.

DURING the winter of 1945, and early in the following spring, the Council agreed that, if possible, arrangements should be made to have, at any rate some, field meetings in 1946, in spite of the still rather obscure situation in regard to petrol. As a result, two field meetings were held, and there was a most gratifying response by members, who met each other again after seven years.

1. In ideal Club weather, the first meeting was held on Wednesday, 3rd July, at Coldingham, where the Square was almost filled with members' cars, although a few came by train or bus.

The first objective was a drive and walk to the prehistoric camp at Earnsheugh, situated on the edge of one of the most precipitous cliffs on that part of the Berwickshire coast. Here, after lunch in or about the camp, the President, Rev. A. E. Swinton, M.A., welcomed members and their friends; and the Vice-President, Major Smail, delivered a short address on the history of the camp.

The programme arranged for the day was quite a strenuous one, but suited to all tastes. While some members elected to proceed to the next objective—St Abbs Lighthouse—by a walk along the cliffs, and see, and especially hear, the numerous wild birds engaged in their domestic affairs, other members drove to the same point by another route. By kind permission of the Northern Lighthouse Commissioners, members were

shown round the lighthouse by the Principal Keeper and his staff, and were able to inspect the engine-room and great lantern.

The third and last objective of the day was an address on Coldingham Priory by Mr J. A. Thomson, F.F.A., a visitor for many years to Coldingham, and now a member of the Club. Incidentally, one of the memorial windows in the Priory is in memory of Dr James Hardy, Secretary of the Club for many years.

The following new members were elected: Mrs M. M. Baker, Berwick; Mrs M. Bell, Berwick; Mrs D. M. Calder, New Heaton; Rev. W. B. Hicks, Berwick; Mr C. J. Dixon-Johnson, Middle Ord; Rev. J. B. Longmuir, Swinton; Mrs M. S. Murray, Berwick; Miss M. E. Patterson, Alnwick; Mrs J. G. Smith, Melrose.

2. The second meeting of the year was held in equally delightful weather at Ladykirk and Norham, on Thursday, 22nd August, when, again, there was a goodly number of members and their friends. This time all came in cars.

Members first listened to an address on Ladykirk Church by its minister, Rev. Andrew Pringle. This church is remarkable in being one of the last Pre-Reformation churches built in Scotland, and it stands to-day in very much the same condition as at the time of its erection in 1500.

After lunch in the church glebe, where members enjoyed the view beyond the River Tweed across to Norham and the Cheviots, cars were rejoined, and driven across the Tweed to Norham Parish Church. Here, a short address was given by the Vicar, Rev. J. A. Little. This church is said to be one of the finest parish churches in Northumberland, and the remains of part of it date back to the seventh century.

The last item was a visit to Norham Castle, where Mr H. L. Honeyman, Secretary of the Newcastle Antiquarian Society, gave a most interesting descriptive talk on its history. The original castle buildings, probably of timber, were built in 1121.

The following new members were elected: Mr H. A. Aitchison, Lochton, Coldstream; Mr W. B. Baker, Berwick; Mrs H. G. Calder, Billiemains; Miss Mona Carr, Berwick; Mr G. E. Davidson, Duns; Mr G. J. Fleming, Lauder; Mr R. O. Kennaway, Lauder; Miss E. L. Low, Melrose; Mr D. C. Short,

Wooler; Mr J. A. Thomson, Coldingham; Mr W. Walker and Mr W. B. C. Walker, Coldstream.

The annual business meeting, in suspense during the war years, was held in Berwick on Wednesday, 2nd October. Some 50 members met the President in the King's Arms Hotel, at 2.15 P.M., who in welcoming them stated that, with a membership of 366, he was looking forward to a very successful and prosperous year.

The following business was transacted:

SECRETARY'S REPORT: 1940-46.

ON account of war restrictions, and particularly the petrol situation, there has been a complete cessation of the Club's activities during this period, other than the two field meetings arranged at short notice this summer.

Early in the war, Miss Hope wrote me as follows regarding the presentations made to her by members: "Many thanks for your letter enclosing the truly magnificent cheque. I do greatly appreciate the kindness of the Club in remembering me in this way, and although it is more than I feel is in any way deserved, I cannot be other than delighted by both the thought which provided the gift, and its magnificence. . . . I am glad to know that it has been in the mind of more than one member to suggest such an honour as Life Membership. Could I ask you to add a note to your Report of the Meeting for the *Proceedings*, saying how much I appreciate the thought and kindness of the Council and members of the Club for all these things: the Life Membership as the honour; the books to keep; and the cheque to spend. It is the only way I can think of, and I should like to say 'Thank you' to everyone."

On 30th September 1939 the number of members on the Roll was 388; at the date of the signing of this Report it has been reduced to 357. During the period under review some new members have been admitted, but resignations have taken place (due to leaving the Borders), and several deaths, including that of Colonel G. F. T. Leather, F.R.G.S., of Middleton Hall, Northumberland. Colonel Leather, the fourth oldest member of the Club, was President twice since he joined in 1889; first in 1925, and again in 1937. The late Sir George Douglas was

the only other member to be President twice. Other members whose passing we deplore are the Master of Polwarth; Mr J. C. Scott, Chamberlain to the Duke of Roxburghe; two other Past Presidents in Dr James Curle, a great authority on Roman antiquities, and Rev. Dr Crockett, Tweedsmuir; and last, but not least, Mr Oliver Hilson, ex-Provost of Jedburgh, friend and biographer of Sir George Douglas, and one widely known in musical as well as literary circles. The executor of the late Miss Constance Greet, Beal, presented to the Club her set of early volumes of the *History*.

The following notes of interest have been sent in:

ORNITHOLOGY.—Quite a variety of birds has been reported: Little Stints and Godwits and Waxwings at Berwick; Hoopoe at Sanson Seal; Sedge Warbler, singing at midnight, at Kirkbank; Jay at Selkirk; Female Peregrine Falcon near the Border Bridge; Great Spotted Woodpecker, Tufted Duck, Brambling, Willow-tits, etc., at Edrom. A dead blackbird was picked up on Flodden Field, bearing a ring with the words, "Vogelwarte, Heligoland, 7069758, Germania." The *Southern Reporter*, which published this, also stated: "A fortnight ago a dead blackbird bearing a ring and the same wording, but a different number, was picked up at Embleton."

In 1945, enquiries were made as to the locations of rookeries by an official of the British Trust for Ornithology, Oxford. He stated that every rookery in Berwick, Roxburgh and Selkirk shires was to be visited by him, and the nests counted. It was found possible to render him some assistance from earlier volumes of the *History*.

ENTOMOLOGY.—Among butterflies and moths reported have been: Grayling, Humming-bird Hawk-moth, Red Admiral, Painted Lady, Peacock Vanessa, Elephant Hawk-moth, Death's-head Hawk-moth. A note which accompanied the last-named reads: "This big moth, which measures $4\frac{13}{16}$ inches from tip to tip of wings, flew in at the top window of my house on the night of 12th September 1945. I kept it alive for 14 days on honey. It is worth noting that in the roof, just above where the moth flew in, there is a bees' nest, and the moth no doubt was attracted by the scent of the honey." Two moths rather

uncommon for Berwickshire were observed this summer: one, *Odezia atrata*, at Coldingham, at the field meeting in July; the other, *Triphosa dubitata*, is said to be rarely seen anywhere in Scotland.

A wasps' nest, about 12 inches by 6 inches, was observed, in 1944, hanging from the high branch of an elm. It appeared to be *Vespa Britannica*. A gale and heavy rain battered it before it could be photographed in the autumn; in the summer this could not be done owing to the heavy leafage.

Four more detailed reports will be found in this number of the *History*. Queries were received in 1942 from the Zoological Society of Scotland in connection with the preservation of wild life, and the establishment of reserves and sanctuaries. Two members, who are authorities on the subject, have stated that they doubt whether any parts of the Scottish Borders are suitable to be made into reserves.

The Central and South-East Scotland Regional Planning Committee asked for information as to our knowledge of drove roads, hill paths and rights of way. From the *History* their representative has obtained some helpful particulars.

The Scottish Regional Group of British Archæologists was formed in 1943-44 and the Club joined it as a member. Its main objects are to strengthen existing measures for the preservation of historic monuments; to enlighten public opinion concerning the records and memorials of the past; and to work for a greater recognition of archæology.

TREASURER'S REPORT 1940-46.

THE Treasurer then read his report (p. 267), and both reports were cordially approved of.

Mr Cowan was then re-elected as Secretary, and Mr Dodds and Mr Porteous as Treasurers. Mr G. F. Fleming, Lauder, was appointed as Assistant Secretary (outdoor), a new temporary office, and Mr A. A. Buist, Kirkbank, Roxburgh, and Mr F. Parker, Berwick, as Editing Secretary and Librarian in place of Mr Herbert and Mr Duncan respectively, both of whom had resigned during the war. Mr Duncan had been Librarian for over twenty years.

Mr John Brown, Co-opted Member of Council, died during

1945, and Mr T. Purves, Berwick, had been appointed by Council to fill the vacancy.

The following new members were elected: Miss Shena D. Aitchison, Coupland Castle, Wooler; Mr Archibald Barbour, Chirnside; Mrs E. M. Bishop, Kelso; Mrs B. V. Hogarth, Berwick; Major Gordon Home, Langhaugh House, Galashiels; Mr T. Lennie, Schoolhouse, Swinton; Rev. J. A. Little, Norham; Mr J. V. Lindsay, Cornhill; Miss C. M. M'Ewen, Marchmont; Mrs I. B. B. Mills, Duns; Miss A. J. W. Newbiggin, Rothbury; Lt.-Col. F. G. and Mrs Peake, St Boswells; Rev. Andrew Pringle, Ladykirk; Misses E. G. and J. E. Robertson, Cawderstones; Mr T. D. Straker-Smith, Carham Hall; Mr and Mrs D. K. Swan, Chirnside; Mr R. Yelloly, Berwick; Mr J. B. Younger, Kelso.

It was unanimously agreed that the usual five field meetings be arranged for during 1947, and that the Annual Meeting take place in October of that year.

The question of section meetings was raised by the President, and after some discussion of ways and means, the Secretary was instructed to issue a post-card to members, on similar lines to one sent previously, asking each to state in which section he or she was specially interested; the Council to decide upon leaders.

A communication was read from the Botanical Society of Edinburgh announcing a "Cryptogamic Foray" in October, and the Secretary was called upon to give the dictionary meaning of this somewhat ambiguous phrase.

After a vote of thanks to the President, members had an opportunity of enjoying two reels of film, the first in Kodachrome, photographed and shown by the Secretary. The first covered the Club's field meetings before the War, and included a "shot" as late as August 1946; the second was entirely of Nature subjects. A similar entertainment was given by Mr Cowan after the annual meeting in 1938, and a similar enthusiasm greeted his efforts on this occasion. Tea was afterwards served.

If a good start is half the battle, then there need be no misgivings as to the future well-being of the Club, once inevitable war-time accumulations and readjustments have been dealt with.

PREHISTORIC CAMP AT EARNSHEUGH.

By Major H. R. SMAIL.

EARNSHEUGH is the principal fort or camp in the area. There are four forts, two south-east of Coldingham Loch and two to the west of the Loch. It is a fine example of a prehistoric double semi-oval camp, the more easterly part being a separate enclosure for the cattle and flocks, unlike the others in the area where there are always traces of hut circles. A slight indication of a foundation lies outside the outer rampart to the west of the entrance, which passes diagonally through the ramparts. Adjoining the fort to the east is a small enclosure, probably secondary, containing a rectangular foundation. The bases of the semi-ovals rest on Earnsheugh, a cliff which towers above the sea. Thus three sides of it supply the camp with natural bulwarks. This particular camp is like one at Old Bewick, Wooperton.

The westermost part is enclosed within a triple rampart, having a platform between the innermost and middle ramparts and a ditch between the middle and outermost. The ramparts lie parallel except at the east end, where the intermediate one terminates some 80 feet distant from the cliff. The other two diverging afford space for the insertion of two additional ramparts springing from the edge of the cliff, and converging to a point near to the termination of the middle rampart. On the outer slope of the second rampart, between the point of convergence and the face of the cliff, a short piece of walling is exposed, this possibly pointing to the last resistance "keep" for the garrison.

In the camp are to be seen eight circular foundations, the largest of which has an internal diameter of 26 feet. In addition there are two detached circular foundations towards the west and opposite the entrance. In this part of the camp the entrance passed straight through the ramparts and measures 9 feet across. The overall measurements of the westermost

part are 390 feet by 190 feet, while the interior measurements are 200 feet by 100 feet. The eastern part is also enclosed by three ramparts, with the difference that the platform is inland, while in the west part the ditch is seaward or nearer the sea. The east part measures 330 feet and 230 feet overall and the interior 250 feet by 130, making it the larger of the two divisions. The cliffs on which the camp is placed rise 500 feet sheer from the sea.

COLDINGHAM PRIORY.

By JAMES ALLAN THOMSON, F.F.A.

THIS building in which we are met to-day (3rd July) is of a very respectable antiquity—it is some seven hundred years old—but it is not the first religious house which has occupied the site. To reach back to that would be to take a leap into “the dark backward and abysm of time”; and, as Mr John Ferguson remarks, in his paper printed in Volume XIII of the Club’s *History*, “The old chroniclers, in the accounts they profess to give of the introduction of Christianity into the various parts of Scotland, are sometimes so palpably inaccurate in their chronology, and the identification of the localities they mention is, in many cases, so extremely doubtful, that we are scarcely warranted in coming to any very definite conclusions on the subject.” Or, as it was put more tersely by a certain wise man of old, “It is impossible to be certain about things which happened so long ago.”

One would like to have been able indubitably to associate St Cuthbert with the Priory in the days of his flesh, and to bring St Ebba to its shelter after her experience of shipwreck on the near-by coast: but the facts as ascertained would not seem to establish this sufficiently.

It is good, however, to know that we have a date to which we may hold as to a sheet-anchor. This date is 1098—practically eight and a half centuries ago—when Edgar, King of Scots, in gratitude for an important victory over his brother, granted a charter bestowing extensive lands here on the Benedictine brethren of Durham, thereby enabling the Priory to be founded, and its services provided for. The church was completed in 1100, or at any rate sufficiently advanced for the dedication to take place in that year, the King himself being present on the occasion.

The church was dedicated to SS. Mary and Ebba, and had within it an altar to St Cuthbert. We thus have an institution

situated in Scotland under the control of an English body, and set, at the same time, more or less in the stream of movement, peaceful or turbulent as the case might be, between two nations. That, in such circumstances, the place should have a precarious existence, is no matter for surprise: and some time in the early decades of the thirteenth century, during an invasion of our country by King John of England, the century-old buildings were burned, and little was left of them that is now to be seen, save the remains of the hospitium or refectory, the ragged ruin of dark-red stone that lies just a short distance south of the church porch, and is known locally as "Eggar's Wa's." The foundations of the church remained, however, and when they were brought to light in the restoration that took place in the middle of last century (1854) they were found to coincide in considerable part with those of the successor building, erected not very long after the destruction, in style partly Norman and partly First Pointed, which is substantially that in which we are now met. It is to this building—this "remarkable church unlike any other in Scotland" (*Report and Inventory of the Royal Commission on the Ancient and Historical Monuments of Scotland*)—that our north and east walls in particular belong, as do also the extensive remains that we shall see outside.

As I have said, Coldingham lay in one of the main routes followed, in advance or retreat, by armies moving north or south; and we learn that in 1528 it was besieged by James V. In 1537 it was stormed and taken by the English under Evers. In 1544 it was again stormed, this time in the course of Hertford's invasion (which had already brought devastation to Kelso and Jedburgh). And in 1648, certain Royalist forces having garrisoned it, it was attacked by Oliver Cromwell's troops, who left nothing standing save the north and east walls and a central tower. During the short period of some twelve years from the date of that sad blow, no worship, so far as is known, arose from the site; but then new west and south walls were added to form the parish church, which, with its box pews and steep galleries, pictured so grimly in the frontispiece to Carr's *History*, served until 1854. About 1770 the central tower fell, and the place generally—apart from the portion used for worship—got into a state of pitiable neglect. From this the

heritors, about the year 1854, decided to rescue it; and so we come to the latest reconstruction, now nearly a century ago.

Before I speak of that, however, I ought to mention some other vicissitudes which the Priory underwent in the period we have covered, relating to its administrative rather than to its physical side. In 1488 James III, wishing to raise funds for the erection and endowment of his new Chapel Royal at Stirling—the building which has “come into the news” lately as the subject of a suggestion for its appropriation as a national memorial of the war from which we emerged last year—proposed to suppress Coldingham and transfer its revenues to this new foundation. The proposal, however, was much against the interests of the all-powerful Homes, and led to the revolt that culminated in the Battle of Sauchieburn and the death of the King. In 1509 the Priory was placed under the Abbey of Dunfermline, and at the Reformation it was secularised.

Coming back to our building, it is, very obviously, the choir of the old Priory church; and its appearance must be, I think, practically the same as it was when the restoration of 1854–55 was completed. On the north and east sides we have the height divided into two parts—a wall arcade in the lower, with its series of pointed arches, the spaces between the spandrels enriched with sunk panels of varied geometric form; and a window arcade, or clerestory, in the upper, with a central passage formed in the thickness of the walls, and lancet-shaped windows piercing the outer wall. Note how the inner part of the wall is supported by a detached arcade of pointed arches, having moulded shafts and carved capitals. “The clerestory,” says the *Inventory*, “is singular from its position and most admirable for the beauty of its composition and the vigour of its details.” As regards the west and south walls—erected, as you will remember, to make good in part the Cromwellian damage—we can at least say that they have sufficed to protect the precious fabric and to enable worship to be offered in comfort, if not in the highest state of æsthetic exaltation.

(In these days of inflated prices, it is interesting to note in passing that the restoration of 1854—clearly no small operation—is said to have been effected at a cost of only £2200, including a sum of £625 from H.M. Board of Works.)

Further excavations were carried out some twenty-five years

ago in the portion of the churchyard lying immediately to the south of the church; and, in the course of these, the little cloister garth was brought to light, as also the walls of an adjacent building, thought to be the chapter-house. The well, now a prominent object, with its wrought-iron crown, appears to have been missed at that time, but was discovered and cleared a few years later.

As you will see, there are a number of interesting memorials in the windows and on the walls. Of these I ought perhaps to direct your attention to the window commemorating Dr Hardy, who for so long was Secretary of the Club; and to the brass to the memory of the talented Miss Eve Blantyre Simpson, who had a long connection with the district and with the Club.

I wish it had been possible for me to enliven these dry-as-dust details with a modicum of flesh-and-blood interest, and give you something that pictured the life of the place, after the manner, for instance, of the "Chronicle" of life in the Abbey of Bury St Edmunds which was used to such good purpose by Carlyle in *Past and Present*: but, so far, I have not succeeded in getting very much. Some remarks by Mr William Brockie in his *Brief Sketch of the History of the Priory of Coldingham* (1886) whet the appetite, and strengthen the resolve to continue the search. "The history of no establishment of the kind in Scotland," he says, "throws so much light on the bloody scenes and wretched government of the country from the fourteenth to the seventeenth century as that of Coldingham." The most recent reference to it that I have come across is in Miss Margaret Irwin's novel, *The Gay Galliard*; but though the writer does in fact bring Mary of Scots to Coldingham to visit her half-brother, the then Prior, she does not write up the scene to any extent, but contents herself at this point of the narrative (if I remember aright) with customary commonplaces of description, leaving us to picture for ourselves majesty in girlish guise, playing hide-and-seek—shall we say?—among the shadows of the clerestory just above our heads. The only touch of nearer human interest that I can offer you at the moment is furnished by some minatory remarks in the session records of 1773, directed against a certain John Tuck—with whom, I believe, I can claim a somewhat remote family connection—this John Tuck having, along with some others, incurred the

censure of the session by reason of their having “carried off the stones [from the ruins] for their private purposes. It was ordered that they be prosecuted by the heritors”!

And now, in bringing these “Notes” to a close, might I suggest as a matter worthy of consideration whether an effort might not be made by the Club to find some means of protecting from the wasting effects of the elements the row of floor crosses and other sepulchral slabs, etc., which we shall see ranged along the outside of the west wall of the southern transept?

LADYKIRK PARISH CHURCH.

By the Reverend ANDREW PRINGLE.

ALTHOUGH founded in the year 1500, by James IV, King of Scots, what is now known as Ladykirk Parish Church was certainly not the first sacred building in this parish. Originally there were two churches and two parishes—Horndean parish and Upsettlington parish.

Horndean parish was once part of the lands of Coldingham Priory by gift from King Edgar, and later these same lands were granted to Kelso Abbey by the Viponts or De Veteriponts. How this Norman family came into possession of these lands is another matter. Vipont also gave the monks the church of Horndean, which must therefore have existed in the year 1156. It is said to have been dedicated as a Church of the Holy Rude and consecrated by David de Bernham, Bishop of St Andrews, on 4th April 1243. Now only the foundations remain in the middle of a disused churchyard which stands on a commanding height on Tweedside, about half a mile east of Horndean.

In the Taxation Roll of the Priory of St Andrews the church of Horndean was valued at 100 shillings, in the Papal Taxation Roll, under Kelso, at 100 shillings, and on the ancient Taxation at 100 merks.

James Ross, with a stipend of £16, and David Douglas are Readers here after the Reformation, but the last record of Horndean as a separate parish is in 1576.

It is certain that Upsettlington was connected with the monks. When St Cuthbert and other monks from Old Melrose travelled to Holy Island their favourite route was by the ford at Upsettlington, and there is a tradition that they had, on the Scots side of the Tweed, a cell or rest-house for their frequent journeyings between their two chief monasteries.

The ancient Church of St Mary of Upsettlington stood on high ground close to the Tweed, and the site is still known as the Chapel Round.

One author states that this church at Upsettlington was built by King David, but he gives no authority for this statement. However, tradition does seem to have something here, as in 1598 a question arose as to the proper place of meeting for the Wardens of the East Marches, and Sir William Bowes, the Governor of Norham, writes to Cecil: "I have heard, if I forget not, from the late worthy Lord Treasurer, of an ancient privilege granted by both princes to a monastery at or near the Ladie Kirk, now a good distance within reputed Scottish ground, supposed to be builded upon the ground, where from its peaceable motions the princes were content to meet on all occasions of interparlance and treaty."

The earliest priest named is in 1159, Andrew, parson of Upsettlington. And it is interesting to note that although we have records of Sir Hugh Hudson succeeding Sir Thomas Hudson in 1556, this church is not included in the long list consecrated by Bishop de Bernham in 1243.

Neither of these two parishes were rich livings, possibly because of their nearness to the Border, where raids and counter-raids were wont to be made; but again that may not have been the main cause, as now that they are united into one parish, and we live in so-called peaceful times, the aforementioned fact might well be repeated to-day.

These two parishes were united at the Reformation, and the Church of St Mary of Upsettlington, which was the newer of the two, became the church of the new parish thus constituted.

The present Church of the Parish is this building in which you now sit. While it is interesting to those who love such buildings, some people have said it does not possess much architectural merit, yet it is one of the last Pre-Reformation churches erected in Scotland, and it certainly does contain some unique features.

Situated on high ground on the Scottish bank of the River Tweed, it is surrounded by a haunted countryside, one full of memories of Scottish kings from Malcolm to Bruce and James IV; and of English monarchs from William the Conqueror to King John and Edward I. Near to the church are mounds still called, by the local people, "The Camps," and it was here that many Scottish armies encamped under their kings.

The church, tradition tells us, was founded in the year 1500,

when Alexander VI was Pope, by James IV, King of Scots, because he had so vowed, when almost drowned, when crossing the river, in one of the deep pools called "steills" where salmon nets once were placed. Two wooded banks near the Tweed, a little to the east of this church, still bear the name "North and South Steill Ends." James built the church in honour of the Virgin Mary, and he stated it would be a building which neither fire nor water could destroy. It was built and furnished completely in stone, and there are still people living in the parish to-day who remember quite distinctly some of the stone pews with which the church was seated. Probably the church was dedicated to the Blessed Virgin of the Steill, who had saved the King, as the name "The Kirk of Steill" continued in use until 1550, after which the church is generally called "Our Ladykirk."

It is cruciform in plan, consisting of a chancel with a semi-hexagonal end, N. and S. transeptal chapels, similar in form to the chancel, and a nave which ends in an almost unbroken wall, with an outside tower at the West end. An unusual feature can be seen in the transepts, where the walls, above the arches, are carried above the roof outside, and form gables which terminate the roofs of the transepts at their inner extremities.

From the outside the eighteen buttresses and the stone roof of wrought ashlar give a massive appearance to the building. Each buttress is crowned with what now appears to be plain square pinnacles with crocketed finials of elaborate design. Most of these pinnacles are much weathered, especially on the N. side. On the top of the S.W. buttress of the S. transept there are the remains of a sundial, which on examination appears to be an original feature. All the figures have disappeared, and the gnomons have rusted away, while the stonework is weathered to a similar degree as the other stones in the building. This is also an interesting feature, as the earliest dated sundial in Scotland, according to M'Gibbon and Ross, is that at Troquhair, dated 1616. If then the Ladykirk sundial is an original feature, as authorities tell us it is, it must be at least one hundred years older.

The tower which is at the W. end of the building is in four stages. The lower three are vaulted internally but undistinguished on the outside, except by small openings on the W.

REPORT ON GRAVE AT ST JAMES'S FAIR GREEN, KELSO.

IN St James's Fair Green at Kelso, and almost under the shadow of Roxburgh Castle, a plough uncovered a long slab of stone which appeared to be covering a grave.

The late Mr J. C. Scott, Chamberlain to His Grace the Duke of Roxburghe, reported this find to the National Museum of Antiquities of Scotland early in March 1941. The Director of the Museum was unable to send a representative and asked Mr Scott to have the grave opened.

Mr Scott asked me to come over and see what might be found during digging operations; he also asked Dr W. Brown, late of Aberdeen, to be present. Some photographs were taken at various stages of the work, two of which are reproduced here.

This provided us with quite an interesting afternoon, but unfortunately little of any great importance was found.

Amongst the soil dug out below the slab were some small pieces of charcoal, water-worn stones and odd pieces of stone, but one find of more interest was a small piece of pottery about $1\frac{1}{2}$ in. by 1 in., green glazed on one side with some marks across its surface. This the Director of the National Museum has said is medieval, but the fragment is so small that he cannot give any particular date.

Two freestone slabs in all were uncovered, both lying east and west, the second being west of the first and at the same level. Slab No. 1 was duly raised and set to one side of the trench. The surface beneath it was composed of shaly stone which crumbled away at the slightest handling. Beneath this was sandy soil, which became damper the deeper we dug. Although not far from the river, this dampness may have been accounted for by the recent heavy snow. Various small pieces of bones, mostly very friable, appeared, but they were not lying in any kind of order. (See Report by Dr Brown, annexed.)

As there looked to be no definite bottom to the trench, digging was stopped after some hours; and a small excavation

was then made at the east end of, and beneath, the second slab. As the conditions appeared to be much the same as under slab No. 1, it was decided that no further information seemed likely to be forthcoming that would give any period to the graves. Slab No. 1 was then returned to the trench and the earth and sand were filled in.

The dimensions of the slabs were very similar:

No. 1. 5ft. 7 in. long on top. 8 in. thick.

East End. 10 in. wide on top of level.

15 in. wide on under side.

West End. 17 in. wide on top of level.

21 in. wide on under side.

Top of slab 8 in. below surface of ground.

No. 2. 6 ft. 9 in. long. 8 in. thick.

East End. 18 in. on top. 21 in. on under side.

West End. 21 in. on top. 24 in. on under side.

H. H. C.

REPORT REFERRED TO ABOVE.

All the bones found were fragmented, very friable and crumbled even on slight handling. The two exceptions were parts of a tibia and of a humerus which were dark in colour. At first this colouration was greenish, but on drying it was evidently due to the bones being in contact with deposits of charcoal which was mixed in the soil.

Small remains of two skulls were found at each end of the grave.

At the north side a vertebral column was found, lying in a position that indicated the body having been buried on the right side with the head to the west.

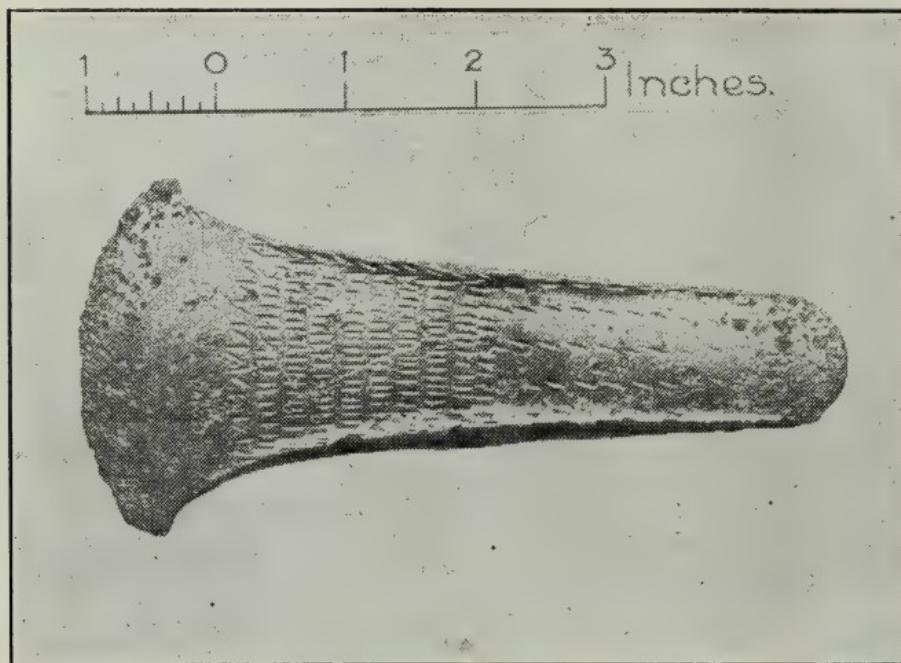
The bones were probably those of a person (or persons) of rather under average height but muscular, as the attachment ridges were prominent.

In a portion of jaw the molars were ground down almost flat and an incisor tooth showed marked decay.

No pelvis was found and the sex of the body (or bodies) could not be settled.

W. B.





BRONZE BATTLE AXE FOUND NEAR CORNHILL.

NOTE ON BRONZE BATTLE AXE FOUND NEAR CORNHILL.

THE following is an excerpt from a letter by Professor V. Gordon Childe, then Director of the National Museum of Antiquities of Scotland, to Mr J. V. Lindsay, Cornhill Farm (now a member of the Club), relative to a Bronze Battle Axe found by him on ground adjoining Cornhill on 8th October 1945:

"I am enclosing herewith two photographs of the decorated axe which you brought in the other day when I was not here. The axe, with its slight flanges along the edge, made, I think, by hammering from the sides, and thickening towards the centre, belongs to the last part of the Early Bronze Age and the transition to the Middle. The earlier decorated axes are most common in Ireland, and were probably made there, but in the Middle Bronze Age a distinct British style was growing up, and this specimen seems to me near the border-line. It seems, moreover, to be made of tinned bronze, or a bronze very rich in tin, whereas the corresponding Irish axes are generally made of unalloyed copper. In this respect it resembles a few other axes in the Museum, notably some from Sluie, Morayshire, about which more than one paper has been written in our *Proceedings*. These features give the axe a high scientific interest. It is in fact a specimen of such importance that it certainly ought to be included in the National Museum, where it would be readily available for study and reference by experts, as well as for admiration by the intelligent public."

The axe was subsequently presented by Mr Lindsay to the National Museum. A photograph taken by the *Berwickshire Advertiser* at the time of its discovery is reproduced here by permission of that paper.

NOTE ON THE BALLAD “THE BATTLE OF TWINLAW.”

A COPY of the following ballad, of which another version has appeared in an earlier volume of the *History*, was found during the war amongst papers belonging to Lady John Scott of Spottiswoode, by her great-niece, Miss Margaret Warrender, now living in London, and was in 1942 presented by her to the Club. In her lifetime, Lady John constantly referred to the story of the two brothers, and to the two great cairns which, after being shot down or overrun in 1944 by Polish tanks, have been rebuilt, and still mark the top of the Twinlaw Hill in the Lammermoor range. According to the *History*, the cairns were opened by Lady John in 1863, but nothing of value was found, as they had been rifled earlier.

1. In days of yore when blude was rife
And wars on bank and brae
And nought but strife on every side
Wrought Scotland mickle wae.
2. Frae the Cheviot hills a daurin' band
Had crossed the river Tweed
Up for the hills of Lammermuir
Their hosts marched on wi' speed.
3. Our Scottish lads upon the lea
In close battalion stood
A' for to set their country free
Wi' their hearts' dearest blude.
4. A chieftain of the Saxon band
Spak out wi' pride and might
And daured the boldest o' the Scots
Out to a single fight.
5. Auld Spotyswode had a youthfu' son
That led the Scottish band
Wha quickly did wi' him agree
To fight him hand to hand.

6. Baith armies stood in sair suspense
This combat for to view,
And the dowie Spotyswode stepped forth
To bid his son adieu.
7. Now fare ye weel my darling son
I fear that ye be lost:
I dreamed a dreary dream last night
And sair my mind is tossed;
8. I saw yere Mother's cauld cauld form
Between twa armes stude
A bonnie lad on every hand
Wi' their hearts streamin' blude.
9. Oh ! my heart will break if ye be slain
Johnnie my only stay;
Yere brother was a wee wee boy
When the Saxons stealed him away.
10. "But I maun fecht," young Spotyswode cried,
"Sae let the trumpets blow
I trust in God or lang, yere son
Will lay yon boaster low."
11. They tooted the horns wi' loud clang
The fearfu' onset blew
The raging twa they stepped forth
And their gude braidswords drew.
12. Like lions fierce in furious fight
The deadly swords did gleam
Till the blude frae Johnnie o' Spotyswode's side
Flowed in a crimson stream.
13. Wi' deaf'ning din on coats of airn
The heavy blows resound
Till the Saxon spent and sair wounded
Fell breathless on the ground.
14. A grey auld carle cam out to see
The body o' his chief:
The tears fell fast frae his auld een
He was sae fu' o' grief.
15. "He's dead," he cried, "the noblest youth
E'er sprung frae Spotyswode's line;
I bore him awa frae the Lammermuir
And gart him pass for mine.

16. “His beauty and his youthfu’ prime
They were my pride and boast
For oft to victory he has
Led on the Saxon host.”
17. Auld Spotyswode heard what was said
Oh, but his cheek grew pale
A dowie man that time he was
His heart began to fail.
18. Sair sair he sighed and tore his hair
Wi’ time and trouble grey:
“Sin ye’re baith gane my sons,” he cried,
“It’s time I were away.”
19. Then Johnnie turned him round about
On the cauld earth as he lay
“Oh, little I kenned when I rade frae hame
The dule I sud work this day.
20. “Oh, curst be the sword, my dear brother,
That wounded thee sae deep;
A weary tryst we’ve had this day
And side by side we’ll sleep.”
21. It was beside the Watch Water
Their spirits passed away;
And up on the top of yon high high hill
They’ve buried their comely clay.
22. Frae the Watch Water to the hill tap
They have ranged them in a raw;
And frae ae hand till anither
The smooth burn stanes did thraw.
23. And they biggit twa cairns on the heather,
They biggit them round and high;
And they stand on the Twinlaw hill
Where they twa brithers lie.
24. And they spake nae word when a’ was dune
That had been sae fierce afore;
But the tane gaed back o’er the Cheviot hill
And the tithers keep the Lammermuir.

THE STRATA OF THE GALLOWMOOR WATER-BORE, NORTHUMBERLAND.

By G. A. BURNETT, B.Sc.

With notes on the fossils by Miss M. HEWITT, B.Sc.

DURING the year 1939 two borings for water were put down near Gallowmoor, seven miles N. of Alnwick. The first of these, a trial hole, reached a depth of 184 ft. At 145 ft. water rose to within 1 ft. of the surface and after further boring was still only 9 ft. below ground. From this encouraging result it was then determined to sink a larger and deeper hole, and one, 12 in. in diameter, was put down some 25 ft. away from the first. Details of the strata encountered in this second boring are as follows:

		DEPTH FROM SURFACE		
		fathoms	ft.	in.
Soil	.	.	...	3
Stony clay with sand partings	.	3	4	10
Yellow sandstone	.	3	5	4
Grey shale with post girdles	.	9	0	6
Dark grey fossiliferous shale with ironstone nodules	.	11	1	2
<i>Oxford Limestone</i>	.	13	3	3
Grey fossiliferous shale	.	14	0	5
Light grey ganister	.	14	3	4
Grey post	.	15	1	4
Shale	.	15	1	9
Coal	.	15	1	10
Dark seggar	.	15	2	2
Grey post with shale partings	.	19	1	3
Dark grey shale with ironstone nodules	.	20	2	6
<i>Limestone</i> , No. 1	.	20	5	10
Dark grey shale with ironstone nodules	.	21	0	10
Ganister, inferior	.	22	0	1
White post	.	22	3	4
Grey shale with post girdles	.	24	1	7
Shale, fossiliferous	.	24	2	1
<i>Limestone</i> , No. 2	.	24	3	1
Shale, fossiliferous	.	24	3	6
Coal	.	24	3	8
Sandy seggar	.	25	4	5

			DEPTH FROM SURFACE
			fathoms ft. in.
Dark fossiliferous shale	.	.	25 5 5
<i>Limestone</i> , No. 3	.	.	26 1 11
Tough "kingle" sandstone	.	.	27 3 11
Grey shale	.	.	27 4 9
Grey jointy post	.	.	32 0 6
Grey fossiliferous shale	.	.	32 4 0
<i>Limestone</i> , No. 4	.	.	32 5 6
Light grey shale	.	.	33 2 8
Greenish nodular marl	.	.	33 3 2
<i>Limestone</i> , No. 5	.	.	34 3 0
Greenish marly shale	.	.	35 0 0
Sandy seggar	.	.	35 1 8
Grey fossiliferous shale	.	.	37 0 7
<i>Limestone</i> , No. 6	.	.	37 4 7
Dark green marl with red iron pyrite patches	.	.	39 3 10
Grey shale with post girdles	.	.	40 4 0
Green shale with red marl partings	.	.	42 3 6
Green shaly post	.	.	43 5 5
<i>Limestone</i> , No. 7	.	.	44 4 11
Light grey sandy shale	.	.	45 2 9
Red and grey pyritic seggar	.	.	46 3 9
Grey-green and dark grey sandy shale	.	.	48 5 0
<i>Limestone</i> , No. 8	.	.	50 0 0
Seggar	.	.	50 3 11
Post	.	.	51 1 0
Grey shale with post girdles	.	.	52 1 8
Grey post	.	.	54 2 6
Grey shale	.	.	55 1 3
Grey post with water	.	.	57 1 4
Grey post with shale partings	.	.	58 5 4
Dark grey shale	.	.	59 2 8
Coal	.	.	59 2 9
Dark seggar	.	.	60 3 9
Light grey marly sandstone with limy nodules	.	.	65 2 9
Grey post with thin shale partings	.	.	69 0 4
Soft grey shale with ironstone nodules	.	.	70 3 0

Description of Gallowmoor Boring.—Superficial deposits consisting of stony clay, to a depth of 22 ft. 10 in., mask the country rock which is mainly composed of an alternating series of sandstones, shales and limestones. Usually, close beneath the limestones, coal-seats (seggar or fireclay) occur, but only three thin coals were sectioned. It should be noted that lithologically the sequence differs much from that found on the Spital shore or in the Ancroft boring (See diagram). The Oxford Limestone, near the top of the section, is 14 ft. 1 in. thick, a grey-blue, compact and almost unbedded crinoidal stone with conspicuous *Girvanella* concretions, especially in the upper part of the lime-

side. The lowest room is entered from the outside through a door heavily studded with nails. The remaining three stages are entered from the inside of the church by means of a newel stair, access to which is gained from a low square-headed door in the N.W. corner of the nave. Entering by this door and climbing the stair we come to the second and third storeys, which are called the priests' rooms. One has an open-hearth fireplace and the other a blocked-up window that commanded a view of the altar. Some churches, *e.g.* Polwarth, have a similar room with window, which was stated to have been the laird's loft. No mention is made of that in the Ladykirk Church. These three storeys were at one time used as a prison by the Baron Baillie, and the worn condition of the steps show that they must often have been trod. The fourth stage is modern, and is surmounted by a four-sided dome with a belfry above. This, although designed by the famous William Adam, while classic, is not Gothic; and is altogether out of harmony with the rest of the building.

There were originally three doors leading into the church. The priests' door in the chancel and the S. door to the nave have heavy iron gates on the outside. Over this latter door probably stood, in a niche, a statue of the Virgin and, on examination, evidence was found above this door, on the outside, of a tablet having been inserted there originally, but the tablet, with whatever it might have told, has long since disappeared. Over the N. door of the nave, which now leads into the vestry, was said to have been a stone with the Royal Arms of Scotland surrounded by the collar of the Garter, but alas that stone also is lost. Above the chancel door a Latin inscription tells of the founding of the church in 1500, the year of the Papal Jubilee. There is another doorway, now blocked up, in the W. wall of the S. transept, but that appears to have been more modern.

On entering this Pre-Reformation church it seems strange to find no trace of a piscina-niche, aumbry, or recess of any kind. Some authorities say that this seems to indicate that the building was not quite finished, or at least had been little used for Divine Service, before the Reformation, while others state that these may have been built up and concealed by some of the many memorial stones that have been erected in the chancel.

A strange discovery was made about 1878 when excavations

were taking place outside the N. wall of the nave. Directly underneath the foundations was found a female skeleton, lying S.E. and N.W., in a bed of sand. It was declared to be that of a young woman.

The windows are lanciform openings divided into two pointed lights by a monial branching at the top, an exception being the east window of the chancel, which is wider than the others, and is divided into three lights by two monials branching and intersecting in the head. The three principal windows in the S. wall, however, are different in style, being wide, depressed segmental or elliptical headed apertures, each containing three pointed lights. Of the windows in the church, five are of stained glass to the memory of the Robertsons of Ladykirk, one to Professor Dobie, a son of a late minister of this parish, and another to the Heriots and Ancrums of Fellowhills. These leaded glass windows lend a touch of colour to a somewhat bare yet reverent interior.

Records tell us that the nave had been at one time separated from the rest of the building by a wall and was used as the Parish School, but in 1861 this wall was removed and the whole church restored to its sacred purpose. It may well be stated here that authorities differ on the bust of King James IV, which can be seen on the W. wall of the nave. While Mr John Ferguson, F.S.A., Duns, stated it to be a modern bust by Mr Handyside Ritchie, Dr Hardy considered it an original, and that it was temporarily placed in the church for safety until a proper place could be found for it.

As has been already said, a number of family memorials can be seen on the inside walls, and this takes from the walls a certain bareness which they otherwise would have. Four are to late ministers of this parish; one to a late minister's son, and several to the memory of Marjoribanks, Robertsons and Askew-Robertsons of Ladykirk Estate. It may be of interest to note that one of the latter tablets states that the clock in the tower was given by the Rt. Hon. Mary Anne Sarah Robertson, Baroness Marjoribanks of Ladykirk, "in grateful remembrance of, and thankfulness for, many mercies and blessings vouchsafed to and enjoyed by her during her possession of the estate, and also in thankful commemoration of the 14th day of October 1881, when, amidst a windstorm of unusual severity, disastrous in its

effects to persons and property both on sea and land, and appalling to all people, a merciful Providence was graciously pleased to protect this parish and its inhabitants by the preservation of human life within its bounds." That is rather interesting, as in the notice for to-day's (22nd August) meeting is mentioned Dr Hardy's statement that the Club met at Ladykirk in the month of August fifty-five years ago (1891) after a "night of great atmospheric disturbance." From this statement and the inscription on Baroness Marjoribanks' tablet it would appear that the surrounding district had been subjected to two similar storms in ten years.

On the S. wall of the chancel there hangs what I am led to believe is the coat of arms of Baroness Marjoribanks, but not being an authority on heraldry I will not even attempt to translate them to you.

The only other item of interest which I mean to speak about to-day is the old dole chest which can be seen at the E. end of the chancel, where the altar most probably was. The chest was bought at a sale by public auction in Edinburgh on 11th April 1885 by the solicitor and factor to Lady Marjoribanks, and presented to this church in the month of October of that year. Made of beautifully carved oak, it has the date 1651 carved upon it, and among the inscriptions one states that it was the gift of Edward Williamson in 1651 to the "Church of St Nicholas, Liverpoole." It seems strange that such a fine piece of workmanship as this should stray from its saintly place in Liverpool to the secular saleroom in Edinburgh. However, correspondence with the Edinburgh auctioneer shows that this chest, as Lot 131, came to Edinburgh as the property of a bankrupt estate in Sheffield. No more of its wanderings appears to be known, but it would appear that the rectors and church officers of Liverpool, at some unknown period, sadly neglected their duty as custodians of the moveable fabric in their charge by permitting it to leave their church—unless, as is quite possible, it was stolen during the troublous times of the seventeenth century. This, no doubt, would be the real reason.

The chest itself is of oak, and of massive construction, measuring 4 ft. 6 in. in length, 1 ft. 10 in. broad and 2 ft. 6 in. in height.

The lid presents some very elaborate workmanship, and consists of a framework into which are set three panels with richly carved mouldings. On the centre panel is carved in bold lettering, "SAYNT NYCHOLAS, LIVERPOOLE"; on the top of the frameword, "IT IS MORE BLESSYED TO GIVE THAN TO RECEIVE"; and below the centre panel, "GOD'S WORST IS BETTER THAN THE WORLDES BEST." The centre panel also contains, "MAN SHALL NOT LIVE BY BREAD ALONE BUT BY EVERIE WORD THAT PROCEEDETH OUT OF THE MOUTH OF YE LORD." On the front of the chest are three carved panels which are also richly moulded. The centre, and perhaps the most interesting, contains a representation of the "FLIGHT INTO EGYPT," below which is the date 1651. On the left-hand panel is depicted a chalice borne by crossed croziers and a Bible, and a similar design occupies the right panel, all beautifully carved. It would appear from this that the use for which the chest was intended was that of a receptacle for the sacred vessels and the altar service books when not in use.

On the upper rail the date is again carved and the name of the donor, as follows: "EDWARD WILLIAMSON'S GIFT TO YE TRULYE POORE AND AGED OF YS PSH."

Below the panels on the lower rail, "MY TRUST IS IN GOD ALONE," and on the plinth, which rests on an enriched moulding, there appear in bold antique letters the words of our Lord: "I WAS HUNGRIE AND YE GAVE ME MEAT, I WAS THIRSTIE AND YE GAVE ME DRINKE, A STRANGER AND YE TOOK ME IN, NAKED AND YE CLOTHED ME, I WAS SICKE AND YE VISITED ME."

The right and left panels on the lid contain two raised escutcheons, upon which are coats of arms and crests. These I dare not try to explain.





GRAVE AT ST JAMES'S FAIR GREEN, KELSO.



[To face p. 227.

stone, around the contained fossils. The limestone lies between highly fossiliferous beds of shale; in the upper one was *Posidonia becheri*, a shell rare in Northern England, though locally common above limestones around the Oxford position. No. 1 limestone, the first below the Oxford, is 3 ft. 4 in. thick. It is a dark grey crinoidal stone surmounted by a nodular, fossiliferous shale again containing *P. becheri*, and underlain by more fossiliferous shale which in turn rests upon an inferior ganister. No. 2 limestone is 1 ft. 11 in. thick and about 24½ fathoms from the surface. It is a dark grey productid limestone with occasional small blotches of coaly matter and greenish marl disseminated through it: fossiliferous shales again overlie and underlie the limestone. No. 3 limestone, at 26 fathoms depth, is 2 ft. 6 in. thick and is composed largely of *Lithostrotion* mats. Dark fossiliferous shale surmounts the limestone, which rests directly on a tough, "kingle" sandstone. No. 4 limestone, 1 ft. 6 in. thick at about 33 fathoms depth, is a dark grey, compact crinoidal stone which passes upwards into 3 ft. 6 in. of very fossiliferous, limy shale; it overlies 3 ft. 2 in. of ordinary light grey, "short," rubbly shale apparently unfossiliferous.

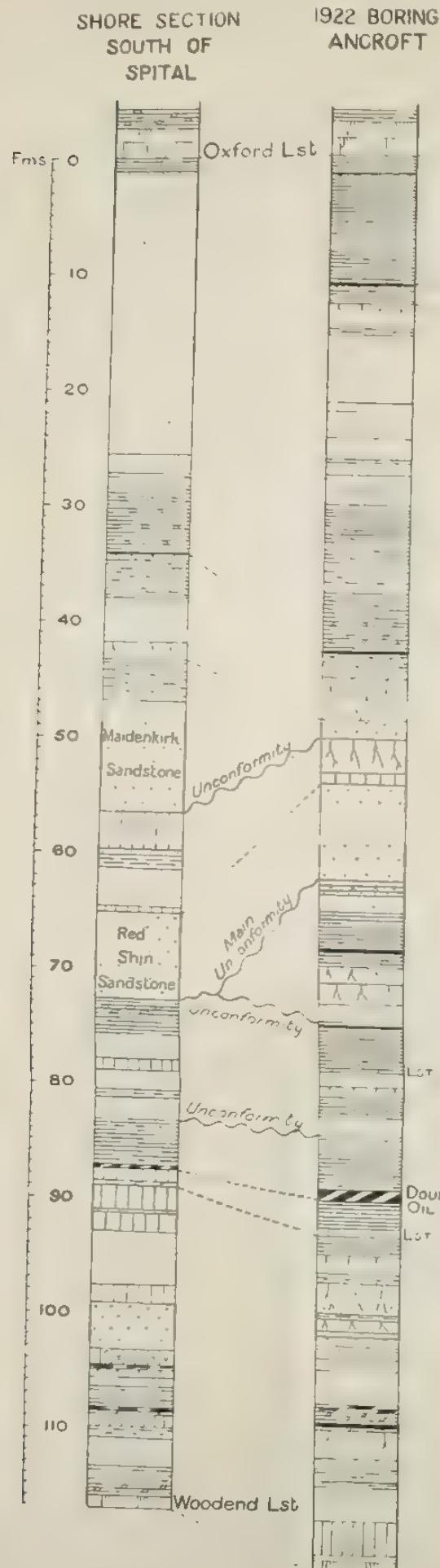
At this point in the section there is an important colour-change in the sediments. Whereas the shales above 33 fm. 2 ft. 8 in. from the surface are of the normal, grey or dark grey, bedded type, those below that level are more often variegated, unbedded marls whose colours range through green, blue and purple to red. Also, whilst the limestones so far described may be characterized as quite normal, the next three, Nos. 5, 6, and 7 below the Oxford, possess certain peculiarities. No. 5 limestone, 5 ft. 10 in. thick at 34½ fathoms depth, and No. 7, 5 ft. 6 in. thick at 44 fm. 4 ft. 11 in., are both pale, nodular stones which in hand specimens appear as aggregates of clotted lumps with suture structure developed where the nodules coalesce. Clayey films are present in the sutures. Fossils are not apparent in these limestones to the naked eye, but under a lens, in thin sections, besides a mass of fragmentary shell debris, No. 5 shows an abundance of foraminifera, whereas No. 7 has only a few. No. 6 limestone, 4 ft. thick at 37 fm. 4 ft. 7 in. depth, may be described as of a light grey colour: it is compact, cryptocrystalline and breaks with a subconchoidal fracture. No fossils are apparent in the hand specimens but in

thin sections, under the microscope, foraminifera are almost as prolific as in No. 5 limestone. Immediately underneath No. 6 limestone there is an eleven-foot bed of dark green marl with irregular red, irony patches disseminated through it. This in turn gives place downwards to ordinary grey shale with post girdles. Next in succession comes 11 ft. 6 in. of green shale with red marl partings, followed by green shaly post atop of No. 7 limestone. The occurrence of highly coloured silts in association with the pale limestone is an unusual feature of considerable interest.

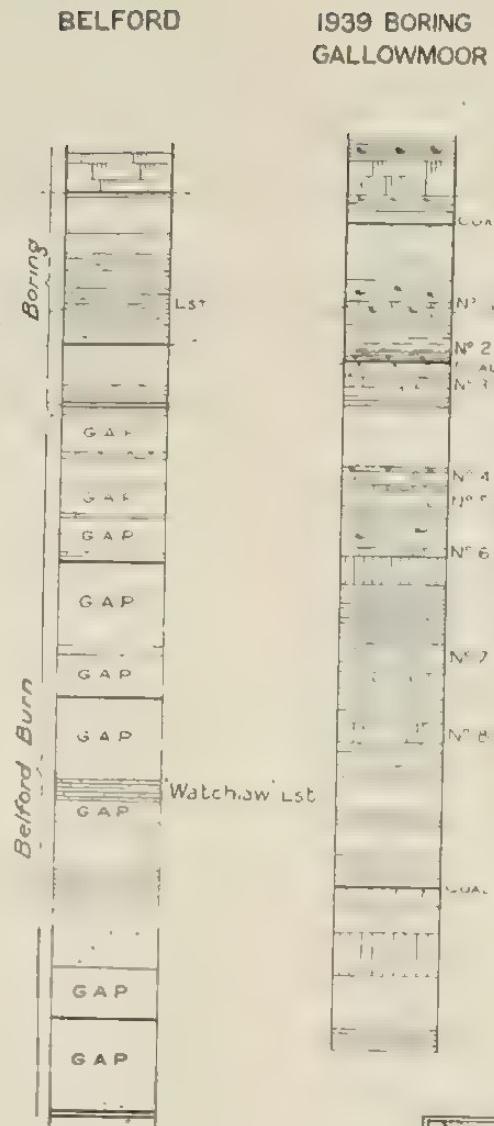
With the exception of a red and grey marly, pyritic seggar at 46 fm. 3 ft. 9 in. the beds between No. 7 and No. 8 limestones are not highly coloured—the red colour in the seggar may be due to oxidation of the iron content. There still persists, however, a faint greenish tinge in a sandy shale with sandstone ribs below the above fireclay, but the shale above the eighth limestone is a normal dark grey tint. No. 8 limestone, 7 ft. thick at 50 fm., reverts to the normal type. It is a dark grey, massive, crinoidal and productid stone with *Girvanella* concretions, as in the Oxford Limestone. It should be noticed that whereas between Nos. 4 and 8 limestones the beds are conspicuously argillaceous, below No. 8 limestone sandstones are predominant. They are of normal type and do not call for special comment. At 59 fm. 2 ft. 9 in. from the surface a one-inch coal occurs resting on 7 ft. of dark seggar. Beneath this is a light grey, marly sandstone, 10 ft. 9 in. thick, with limy nodules, which rests upon a variegated marl, 18 ft. 3 in. thick, again with limy nodules. The borings end with 21 ft. 7 in. of grey post with thin shale partings resting on 8 ft. 8 in. of soft, grey shale with clay-ironstone nodules.

Comparison with Other Districts.—In North Northumberland the beds between the Woodend and Oxford Limestones are imperfectly known and the Gallowmoor record, therefore, is of great interest. Comparable sections are rare and at considerable distances from Gallowmoor; they include (1) the Spital Shore Section, notable for the absence of limestones in a run of arenaceous sediments extending for 450 ft. below the Oxford, (2) the Ancroft Bore (1922) which, in the strata concerned, agrees fairly well with the Spital Section and includes a hard, fossiliferous, limy band 3 in. above the Greenses Coal, (3) the

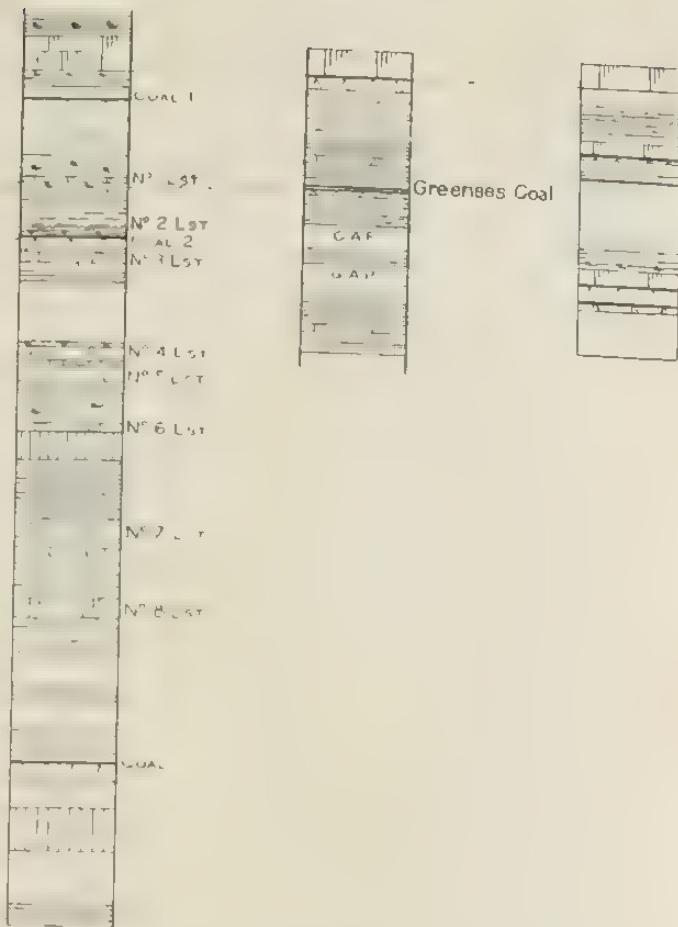




BELFORD

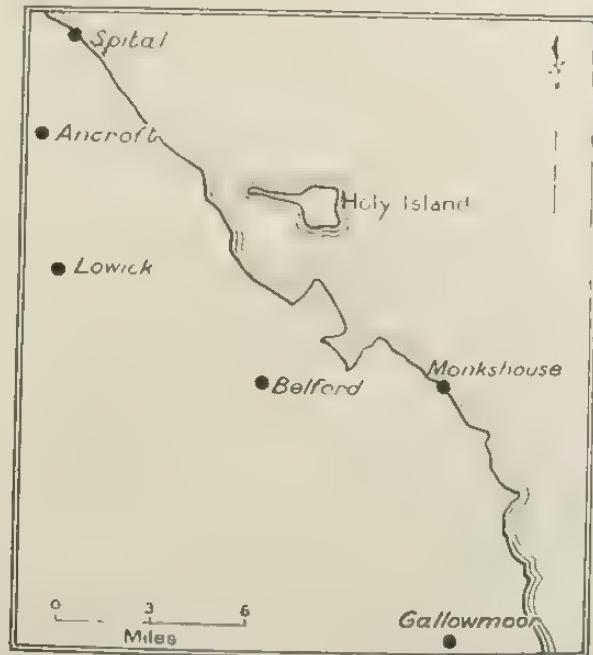


MONKSHOUSE
AND
SHORESTON



INDEX

[Sandstone pattern]	Sandstone
[Shale pattern]	Shale
[Sandy shale pattern]	Sandy shale
[Grey beds pattern]	Grey beds
[Fireclay pattern]	Fireclay
[Oil shale pattern]	Oil shale
[Coal pattern]	Coal
[Limestone pattern]	Limestone (Lst)
[Marl pattern]	Marl
[Shell bed pattern]	Shell bed



COMPARATIVE DIAGRAM, GALLOWMOOR WATER-BORE.

[To face p. 237.]

very incomplete Belford Burn Section and (4) two smaller sections at Monkhouse and Lowick. Details of these, except the last, are to be found in the published Geological Survey Memoirs, but for the purpose of this contribution they are set out diagrammatically in the figure opposite. The Lower Limestone Group in North Northumberland includes the strata between the Dun and Oxford Limestones. An approximate general section is as follows ¹:

	ft.
Oxford Limestone (15 ft. thick)	...
Strata, with the Greenses Coal; much sandstone, some marl and white limestones	250
Watchlaw Limestone	7
Strata, with a thin coal	120
Doupster Oil-shale	3
Strata	95
Woodend Coal	1
Strata	25
Woodend Limestone	15
Strata	60
Dun Limestone	6
Total . . .	<u>582</u>

In the above section, compiled from various sources, mainly to the west of Lowick in the Etal district, we are chiefly concerned with the 350 ft. or so underlying the Oxford Limestone. The position of the Watchlaw Limestone in relation to the Doupster Oil-shale is given by the Hazely Hill Whinstone Quarries exposure where, also, some 76 ft. of beds (including three gaps aggregating 21 ft.) are seen above the limestone. None of the white limestones, however, mentioned in the above general section is seen, and they therefore presumably lie more than 76 ft. above the Watchlaw. In the Gallowmoor section, which encounters the Oxford near the surface and naturally falls into the upper part of the above general section, the pale limestones are Nos. 5 and 7 at 125 ft. 9 in. and 187 ft. 8 in., respectively, below the Oxford. If it were safe to correlate on thickness of intervening strata alone it would appear, on the one hand, that neither of these limestones is the Watchlaw but that, on the other hand, they might rightly fall into place with the "white limestones" known to lie between the Oxford and Watchlaw positions.

¹ *Mem. Geol. Surv.*, "The Geology of the Cheviot Hills," 1932, p. 77.

In the Belford Burn Section,¹ which is admittedly very incomplete, there are only two limestones seen in the 300 ft. or so of strata beneath the Oxford, but Mr Dinham claims that "the 'Watchlaw' Limestone probably crosses the stream immediately below the ford 225 yds. west from the plantation," and that this limestone is about 40 fm. below the Oxford—an amount in close accord with the Etal interval. If this apparent constancy continued to Gallowmoor the Watchlaw position should be about 5 fm. below No. 8 limestone. Actually the nearest pale limestone, as stated above, is No. 7, about 10 fm. above the calculated level, and below the calculated level to the end of the bore, some 15 fm. lower, no limestones occur: neither is there any equivalent of Doupster Oil-shale. In a way the No. 7 limestone resembles the Watchlaw in being nodular and pale-coloured, but there are other just as important diagnostic features awanting. The roof shales, for instance, in this case green, bedded, shaly post, are totally unlike those surmounting the Watchlaw proper, which are stated to be "red and yellow marl full of small irregular cement nodules—a covering unlike that of any other limestone in the district." The No. 8 limestone, as stated before, reverts to the Oxford Limestone type. It certainly is not the Watchlaw. A process of similar reasoning rules out the possibility of any of the other limestones in the Gallowmoor boring being the Watchlaw, and we must conclude that the interval between Oxford and Watchlaw Limestones in the Alnwick area exceeds 340 ft. There is no evidence of discordance in the Gallowmoor boring.

In the Ancroft and Spital sections (See diagram) the thickness of strata between the Oxford Limestone and Doupster Oil-shale closely correspond, but this is misleading because of unconformities in the vertical sections. One of these, at the base of the Red Shin Sandstone, is well known. It cuts out the Watchlaw Limestone,² but close comparison of these sections (See diagram) will demonstrate that almost every sandstone has an unconformable base: some of these and certain correlation lines are indicated in the figure. In particular, when the Ancroft boring is compared with No. 2 Scremerston boring³ discordance

¹ C. H. Dinham in *Mem. Geol. Surv.*, "The Geology of Belford, etc.", 1927, pp. 58, 59.

² *Mem. Geol. Surv.*, "The Geology of Berwick-on-Tweed, etc.", 1926, pp. 21, 39, 48.

³ *Ibid.*, p. 39.

is noted beneath the sandstones at 63 fm., 74 fm. and 85 fm. respectively beneath the Oxford Limestone. In addition, when the Ancroft record is set against that of Spital a further hiatus is apparent at the base of the sandstone (equivalent to the Maidenkirk Sandstone) about 50 fm. below the Oxford. But the most important of all these unconformities, as far as can be seen, is undoubtedly the one at the base of the Red Shin Sandstone, which in the Ancroft boring is about 62 fm. beneath the Oxford Limestone. At Spital at least 12 fm. of strata, including two coals, are awanting at the base of the Red Shin Sandstone, where two unconformities coalesce. The 1 ft. 2 in. coal in the Hazely Hill Section may well be the coal (1 ft. 2 in. thick) approximately 68 fm. below the Oxford at Ancroft, and it is readily determined, therefore, that at least 4 fm. of strata, including the Watchlaw Limestone, are "cut out" by the Red Shin Unconformity in the latter record. The interval then at Ancroft between the Oxford and Watchlaw Limestones is 396 ft., but at Spital, owing to the increased thicknesses of interposing sandstone beds, as much as 438 ft.

Unconformities in the Spital and Ancroft sections have been indicated but, whilst these may explain the absence of certain beds in the available sections, they do not explain the almost total absence of beds of limestone from those sections. That such do occur normally about Belford and Alnwick is now certain, and their strange absence at Spital and Ancroft remains, for the present, an unsolved problem.

The Lowick boring is about half-way between Ancroft and Belford, but, whereas the two last named show one thin limestone and three coal positions in the 15 fm. of strata beneath the Oxford, the Lowick boring has two well-developed limestones and four coals. In the Belford boring there is a 2 ft. limestone some 14 ft. above the coal which occurs 10 fm. under the Oxford, whilst at Ancroft the comparable coal is directly under the limestone. At Gallowmoor there is a coal-seat a short distance beneath the No. 1 limestone and a 2 in. coal closely underlying No. 2 limestone. These limestones are separated from each other by sandstone and shale and belong to distinct geological phases, so that No. 1 limestone and its coal-seat represent the Greenses Coal and overlying limestone in the type area at Monkhouse. Because of its geographical situation the

increased thicknesses of the limestones and augmented coals at Lowick are unexpected, but these may be explained as a local development only. At the same time it should be pointed out that when the full Lowick Section is compared with, say, the Seahouses Water Bore a strong resemblance is manifest with beds about the Budle Limestone horizon.

The fossils from the Gallowmoor boring have been determined by Miss Hewitt (pp. 241, 242), and her notes are as follows. The fossiliferous shale horizons are measured from the surface in feet/inches.

General Characteristics of the Fauna.—The cores have yielded a large fauna, both numerically and specifically. Despite the fact that there are nine limestones in the section, corals are rare, apart from the Lithostrotions which occur in the lower part of the boring. Bryozoa are common at several horizons, whilst *Girvanella* occurs in the Oxford Limestone and again in No. 8.

Brachiopoda were common at several horizons, some twenty-nine species being recorded, but they were less abundant than the Pelecypods. The Gastropods are represented by about eight species, which mainly occur singly, whilst examples of other classes are rarely found.

The Fossils and their Distribution.—The shale from 64 ft. 2 in. to 67 ft. 2 in. beneath the surface contains a large and varied fauna. Corals are common but usually crushed, so that specific identification is difficult. The commonest forms are an Aulophyllid, not unlike *A. fungites* var. *redesdalense* and a simple Clisiophyllid. The brachiopods are rather fragmentary, but eleven species were identified; *Leptaena analoga*, represented by several good specimens showing the internal features, was the most frequent. There was a large number of Rhynchonellids, but in very crushed condition. Pelecypods were common, belonging to types previously recorded from the Lower Limestone Group in Northumberland. Stanley Smith records the occurrence of numerous corals in the corresponding shale above the Oxford at Ancroft, but it is interesting to note that none of the forms he mentions are found here.

The only fossil remains besides *Girvanella* concretions found in the Oxford Limestone are crinoid ossicles. So poor an

GALLOWMOOR BORING (1939).

Distribution of the Fauna in the Chief Fossiliferous Horizons.

		Shale. 64/2-67/2	Shale. 81/3-83/11	Shale. 115/3-122/6	Shale. 126/8	Limy Shale. 146/-	Limy Shale. 192/6-196/-
CORALS.							
<i>Aulophyllum fungites</i> nr. mut. <i>redesdaleense</i> , Smith	.	.	x				
<i>Early Clisiophyllum</i>	.	.	x				
<i>Diphyphyllum</i> sp.	.	.	x				
<i>Lithostrotion irregulare</i> (Phill.)	.	.			x		
<i>Lithostrotion junceum</i> (Flem.)	.	.		x	x	x	
<i>Lithostrotion martini</i> , Ed. and Haime	.	.			x	x	
<i>Zaphrentis</i> sp.	.	.	x			x	
<i>Syringopora</i>	.	.	x			x	
BRYOZOA AND ALGÆ.							
<i>Fenestella</i>	.	.	x		x	x	
<i>Stenopora</i>	.	.		x		x	
<i>Girvanella</i>	.	.				x	
BRACHIOPODA.							
<i>Dielasma hastata</i> (Sow.)	.	.	x			x	
<i>Athyris planosulcata</i> (Phill.)	.	.	x	x	x	x	x
<i>Athyris rossii</i> (L'Eveillé)	.	.	x	x	x	x	x
<i>Seminula ambigua</i> (Sow.)	.	.	x	x		x	x
<i>Spirifer</i> nr. <i>trigonalis</i> , Mart.	.	.				x	x
<i>Martinia glabra</i> (Mart.)	.	.	x	x	x	x	x
<i>Pugnax pugnus</i> (Mart.)	.	.	x	x	x	x	x
<i>Pugnax pleurodon</i> (Phill.)	.	.	x	x	x	x	x
<i>Pugnax acuminatus</i> (Mart.)	.	.		x		x	x
<i>Leptaena analoga</i> (Phill.)	.	.	x	x	x	x	x
<i>Schizophoria resupinata</i> (Mart.)	.	.	x	x	x	x	x
<i>Rhipidomella michelini</i> (L'Eveillé)	.	.	x				
<i>Orthotetids</i>	.	.	x	x		x	x
<i>Productus</i> cf. <i>giganteus</i> (Mart.)	.	.			x	x	
<i>Productus antiquatus</i> (Mart.)	.	.	x			x?	
<i>Productus concinnus</i> , Sow.	.	.	x			x?	
<i>Productus pugilis</i> , Phill.	.	.	x			x	x
<i>Productus</i> sp. (semireticulate type)	.	x					
<i>Productus aculeatus</i> (Mart.)	.		x				
<i>Productus</i> cf. <i>setosus</i> , Phill.	.		x			x	x
<i>Buxtonia scabricula</i> (Mart.)	.		x			x	x
<i>Pustula punctata</i> (Mart.)	.	.	x				
<i>Pustula postulosa</i> (Phill.)	.	.	x				x
<i>Overtonia fimbriata</i> (Sow.)	.	.	x				

BRACHIOPODA—contd.										
<i>Chonetes</i> nr. <i>hardrensis</i> (Phill.)	.	.	.	.	x	x	Shale, 64/2-67/2	Shale, 81/3-83/11	Shale, 115/3-122/6	Lamy Shale. 126/8
<i>Chonetes buchiiana</i> , de Kon	.	.	.	.	x	x				
<i>Chonetes laguessiana</i> , de Kon	.	.	.	.	x	x				
<i>Discina nitida</i> (Phill.)	.	.	.	.	x	x				x
PELECYPODA.										
<i>Limatulina desquamata</i> (M'Coy)	.	.	.	.	x?					
<i>Pterinopecten granosus</i> (Sow)	.	.	.	.	x	x				x
<i>Aviculopecten semicostatus</i> (Portl.)	.	.	.	.	x	x	x			x
<i>Aviculopecten incrassatus</i> (M'Coy)	.	.	.	.	x	x	x			x
<i>Aviculopecten dissimilis</i> (Flem.)	.	.	.	.	x	x	x			x
<i>Aviculopecten plicatus</i> , Sow	.	.	.	.	x	x	x			x
<i>Pseudamusium redesdalense</i> (Hind)	.	.	.	.	x	x				
<i>Pseudamusium anisotum</i> (Phill.)	.	.	.	.	x	x				x
<i>Amusium concentricum</i> , Hind.	.	.	.	.	x	x				x
<i>Posidonia becheri</i> (Goldf.)	.	.	.	.	x	x	x			x
<i>Solenopsis parallelia</i> (Hind.)	.	.	.	.	x?					x
<i>Nuculana attenuata</i> (Flem.)	.	.	.	.	x?					x
<i>Nucula undulata</i> (Phill.)	.	.	.	.	x	x				x
<i>Streblopteria ornata</i> (Eth.)	.	.	.	.	x	x				x
<i>Eumicrotis hemisphaericus</i> (Phill.)	.	.	.	x						
<i>Edmondia arcuata</i> (Phill.)	.	.	.	.		
<i>Sanguinolites plicatus</i> (Port.)	.	.	.	.						x
<i>Sanguinolites striatogranulosus</i> (Hind.)	.	.	.	.						x
<i>Lithodomus lingualis</i> (Phill.)	.	.	.	.	x	x				x
<i>Paralledon divisus</i> (M'Coy)	.	.	.	.	x	x				x
<i>Cypriocardella rectangularis</i> (M'Coy)	.	.	.	.	x	x				x
GASTROPODA.										
<i>Bellerophon ureii</i> (Flem.)	.	.	.	.	x	x				x
<i>Loxonema sulcifera</i> , de Kon	.	.	.	.	x	x				x
<i>Macrocheilina acuta</i> , Sow	.	.	.	.	x	x				x
<i>Macrocheilina</i> sp.	.	.	.	.	x	x				x
<i>Naticopsis plicestria</i> (Phill.)	.	.	.	.	x	x				x
<i>Naticopsis amplicata</i> (Phill.)	.	.	.	.	x	x				x
CEPHALOPODA.										
<i>Orthoceras</i> sp.	.	.	.	.	x					
TRILOBITA.										
<i>Phillipsia</i> sp.	.	.	.	.	x					
CRINOIDIA.										
<i>Crinoid</i> ossicles	.	.	.	.	x	x	x			x

assemblage is in marked contrast with that found in the shales immediately above and below the limestone.

The fossils from the shale underlying the Oxford are mainly brachiopoda; twenty-one species were recorded. There are many productids, of which *P. pugilis* (Phill.) in an early stage is the commonest. Another productid belonging to the *longispinus* group and near to *P. setosus* (Phill.) is also plentiful. Of the pelecypoda, *Streblopteria ornata* (Eth.) is the most abundant.

Only a few fossils were obtained from the shale between 115 ft. 3 in. and 122 ft. 6 in. from the surface. Amongst these *Posidonia becheri* and *Chonetes* nr. *hardrensis* were common: the latter showed well-preserved internal features.

From the limy shale at 125 ft. 8 in. below the surface four specimens were obtained, each representing a different species. They are one pelecypod, *Conocardium aliforme* (Sow), and three gastropods, *Loxonema sulcifera* de Kon., *Macrocheilina rectilinea* (Phill.), and *Bellerophon* sp. These have all been recorded previously from the beds below the Oxford in Northumberland.

From the shale at 126 ft. 8 in. below surface six species, included in the table, are represented mainly by single specimens. *Solenopsis parallela* (Hind.) is the commonest form.

From the shale at 145 ft. 7 in. several specimens of the last-mentioned fossil were obtained along with productid debris of the semireticulate type and *Protoschizodus* sp.

From the limestone at 147 ft. four brachiopods, two corals and bryozoa are recorded in the table. The corals, both Lithostrotions, are common in the "solid," middle portion of the limestone, whilst the brachiopods lie in the more shaly beds on either side. *Productus giganteus* is represented by a portion of thick-walled shell with rather coarse ribbing.

From the shale at 147 ft. 3 in. *Lithostrotion junceum* is very common, associated with productid debris of both a semi-reticulate and giganteid type: there are also a few crushed specimens of *Pugnax pleurodon* (Phill.).

The limestone at 157 ft. contains *L. junceum* and *Campophyllum murchisoni* in abundance. The former occurs in nests near the top and is a thick variety with long, straight growth. *Campophyllum* is commoner near the base.

From the limy shale and limestone at 196 ft. a large and varied fauna is recorded in the table. The corals and brachio-

pods are associated in the limestone, whilst the many pelecypods and brachiopods, many fragmentary, are in the associated shale. There are traces of *Girvanella* surrounding *L. junceum*. The commonest form of brachiopod is *Buxtonia scabricula*, represented mainly by brachial valves. Most of the pelecypods have previously been recorded from the Lower Limestone Group of Northumberland, but an interesting exception is *Parallelodon divisus* which, according to Hind, is common in parts of the Calciferous Sandstone of Scotland.

From the shale at 221 ft. four single specimens of pelecypoda were collected: *Limatulina scotica* (Hind), *Aviculopecten plicatus* Sow, *Modiola jenkinsoni* (M'Coy), *Nuculana attenuata* (Flem.), and the impression of a crinoid arm.

The limy shale at 225 ft. contained nests of *L. junceum* and *L. martini*. From the limestone at 226 ft. a single clisiophyllid, *Dibunophyllum*, was obtained, and from the lowest limestone at 300 ft. came sporadic *Girvanella* concretions.

Conclusion.—On the whole, the fauna is typical of the D1 sub-zone in other parts of the county. According to Garwood and others this sub-zone is very thick and noted for the purity of its limestones. Corals, which are the chief aids to zoning, are here comparatively few, but *Campophyllum murchisoni*, a zonal type, is abundant in the No. 3 limestone: those in the shale above the Oxford Limestone are of an early type. The brachiopods are chiefly of the type common to the Lower Limestone Group in Northumberland, but a few, such as *P. pugilis* (which appears, however, to be an early form), are common in the D2 zone of other parts of the county. The pelecypoda though relatively large in number are unfortunately of no zonal importance.

For the journal of this bore and permission to examine the cores we wish to thank W. Robertson, Esq., Stamford, Alnwick.

OBITUARY NOTICES.

ALLAN A. FALCONER, DUNS.

By GEORGE TAYLOR.

By the death of Mr Allan A. Falconer on 8th March 1940 the Club has lost one of its most useful and highly esteemed members, who was respected and beloved by all who knew him.

Born at Duns on 8th September 1870, he received his education at the old Duns Academy in Newtown Street, and at Duns Public School. A somewhat delicate and studious boy, he developed early a taste for Natural Science and a love of the world's beauty which led him to spend his free time in exploring the lovely countryside in which he lived.

His health was invigorated by these pursuits, and few could out-tire him in a long walk. Once with a friend he traversed the whole stretch of the Lammermoors from the sea to Oxton and cycled home, having climbed many of the leading hills in the course of the day. He used to say he counted a year lost in which he had not visited Cheviot, and was pleased to guide friends to that wild scenery where so many interesting things could be gathered and examined. I do not think there was a ruined castle or church in Berwickshire which he had not visited, and the history and legends of which he did not know.

Mr Falconer became a member of the Club in 1893 and attended as many of its meetings as possible, when his extensive knowledge of the district, not less than the genial good nature with which his information was imparted to others, made his presence always welcome.

Botany was a favourite study; he knew the habitat of all the rarer plants in the Border district. Geology equally appealed to him. The geological features covering a wide area in Berwickshire and the surrounding counties were carefully examined. Perhaps his brightest interest was in bird life, and

many notes on this entrancing subject were contributed to the *Berwickshire News* and other papers.

Mr Falconer, after leaving school, entered the establishment with which he has since been identified—Messrs James Swan & Co., Newsagents, Printers, and Stationers, Duns. On the death of his uncle, James Swan, Mr Falconer took over the business, and along with his sister continued to carry it on in its prosperous career. It has been in the family for over eighty years.

For many years he was correspondent for the *Berwickshire News*, *Scotsman*, and *Glasgow Herald*, contributing more or less regularly articles on Natural History and archæological subjects.

At the request of the County Council he prepared a Guide to Berwickshire in which, though necessarily abbreviated, his very complete knowledge of the county is reflected. During the present year the Rev. J. B. Johnston, late of Falkirk, the well-known authority on Scottish place-names, who had undertaken to supply a paper on Berwickshire place-names to the *Scottish Geographical Magazine*, in a Prefatory Note makes most generous reference to the assistance Mr Falconer was able to give him. The Club brought him into touch with many kindred spirits, and he found many more in his work as a journalist.

With such varied interests and assured knowledge he was constantly applied to for information and was ready always to respond. Hard work and scientific interests leave little time for lighter things, but occasionally he wrote poems of considerable merit. Over his verses he was very shy; they were never printed, except in early days, save over a *nom de plume*.

There was something very attractive about his unassuming bearing and the transparent sincerity of his nature, always willing to promote the pleasure and happiness of others. His was a full life, and his memory is cherished by all who knew him. Mr Falconer is survived by two sisters.

List of papers contributed to the *History*:

Vol. xxiv, p. 473 (1922)—Note on the Occurrence of the Waxwing in the district during the “Invasion” of 1921–22.

Vol. xxvii, p. 293 (1931)—Cuddy Wood, Langton.

Vol. xxvii, p. 355 (1931)—Two Early Graves at Cockburn, Duns.

- Vol. xxvii, p. 393 (1931)—Botanical Notes.
 Vol. xxviii, p. 79 (1932)—The Geology of the Dirringtons.
 Vol. xxviii, p. 103 (1932)—The Wolf in Scotland.
 Vol. xxviii, p. 105 (1932)—On a Snowy Owl.
 Vol. xxviii, p. 106 (1932)—Pied Blackbirds.
 Vol. xxviii, p. 112 (1932)—Obituary Notice of Adam Anderson, Galashiels.
 Vol. xxviii, p. 154 (1933)—The Wolf in Scotland.
 Vol. xxviii, p. 247 (1934)—Bronze-Age Burial at Rigfoot, Longformacus Parish.

THE SNIPE.

I LIE upon the lonely moor,
 The smoke curls upward from my pipe,
 And, through the twilight dark'ning fast,
 I hear the drumming of the snipe.

Mysterious bird—I watch thee plunge
 Swift through the air, a living dart,
 Then, circling round above my head,
 Lost in the gathering clouds thou art.
 A bird remote that loves to dwell
 Far from accustomed ways of mén;
 Thy haunt the lonely upland field
 Or reedy margin of the fen.

And yet a heart that loves to soar
 Is hidden underneath thy wing,
 For scarce the skylark seeks to rise
 Nearer the gates of heaven to sing.

A. A. F.

EX-PROVOST OLIVER HILSON.

By GEORGE WATSON, M.A., F.S.A.Scot.

WHEN ex-Provost Oliver Hilson, J.P., died in Perthshire, on 23rd January 1943, a notable link with Jedburgh's civic, cultural and commercial life of half a century ago was severed. In that Border town the Hilsons had been a mainspring and mainstay of the woollen industry from the end of the eighteenth century, when their introduction of the manufacture of tweeds increased employment and prosperity in the neighbourhood.

Oliver Hilson was the elder son of John Hilson, who was once part owner of Bongate (and later of Canongate) Mills, resided at Lady's Yards, and shared his time between business, literature

and politics. In 1862 John Hilson was elected a member of this Club, enriched its *History* with various contributions (VI, 347–349, VIII, 443–446, IX, 345), and died in May 1884.

Born in Jedburgh (presumably at Lady's Yards) about fourscore years ago, Oliver Hilson was given a sound, liberal education in the best local seminaries, and—like his brother Alfred—got a thorough grounding in woollen manufacture. In early manhood both brothers entered the Town Council—Oliver being elected a Councillor by 1890. Special gifts of oratory, tact, business and leadership led to his election as a bailie in 1897, and next, inevitably, to office as senior magistrate of this ancient, historic burgh, of which he was the proud Provost for a double term of office—1902–7. It was during his Provostry that the Wordsworth Memorial Tablet was unveiled in Abbey Close, Jedburgh, on 21st September 1903 (see *Border Magazine*, viii, 201–204, and frontispiece), when his admired friend Sir George Douglas gave a classic speech to a large assembly, over which Provost Hilson presided.

Oliver Hilson had in full measure other gifts than those mentioned. Of these, an especial one was music. Well does the older generation in Jedburgh remember his skilful execution on the violin, either solo, or in leading the orchestra, when for example the Musical Association rendered *The Messiah* and other masterpieces. A favourite lecture of his, barely half a century ago, dealt with “Violins and Violin-makers.”

From his father, Provost Hilson inherited not only a literary tradition, but also a select library of books and a collection of local manuscript materials. From such sources Hilson has not only enriched the Border press, but the Edinburgh and Glasgow dailies have received of his literary wealth. Some special articles from his ready pen are preserved in Hawick Archaeological Society's *Transactions* (for 1911, 1922–24, 1933–34). The ex-Provost's spontaneous readiness to help in Border literary projects was illustrated with varied assistance when my *Roxburghshire Word Book* (Cambridge University Press, 1923) was being compiled a quarter of a century ago.

An ardent and moreover active interest in politics was another inheritance from his father. Many thought, indeed, that he took more interest in political matters than in his business, which felt more and more the strain of southern competition

(and eventually closed down some years before the first World War). Hilson was a lifelong Liberal of the perfervid—yet not bigoted—type. When Sir John Jardine contested the seat for Roxburghshire, in 1906, the Provost acted not only as a campaigner but as his election agent, and that with such effect that Sir John was returned by a substantial majority.

As early as 1894 Hilson was elected a member of this Club; and he took an enthusiastic—though not a prominent—interest in its affairs. Many may recall to memory his once lithe figure on the occasion of the climb to the peak of “Dark Ruberslaw,” and his ingenious (if hazardous) derivation of the name from Gaelic (*History*, 1934, p. 206). To the Club’s *History* (XXIX, 137–144) he contributed a welcome biography of Sir George Brisbane Douglas, Bart., a former President of this Society. Slightly augmented, that contribution was incorporated in the handsome volume of that historian’s *Prose and Verse*, which Hilson edited—with a “Foreword” by the Rev. Dr Crockett—in 1939 (*History*, XXX, 141). Appropriately, its industrious editor dedicated the stout quarto to the members of this Club, “in honoured remembrance of their President, 1901, 1931.”

On his relinquishing business, Hilson—who was a cousin of James Lindsay Hilson (*History*, XXVII, 149–151)—retired to picturesque Ancrum, where he resided for a goodly number of years at “Croupyett.” Thence he was a frequent pedestrian visitor to his beloved Jedburgh. Next he dwelt for a considerable period at Melrose, and still later he had a Galashiels address—especially for seeing his enduring tribute to Douglas through the press. Subsequently he removed to salubrious Meigle to spend the evening of his days; and the news of his decease there at the age of 81 was heard with keen sorrow by a wide circle of admiring friends.

ORNITHOLOGICAL AND OTHER NOTES.

(a) By R. CRAIGS, Catcleugh.

Ornithology.

1939.

- Jan. 5. Immature Great Northern Diver taken off ice in Reservoir by a fox and carried on to the Fell. I sent it to the Hancock Museum, where it was identified. This is my first record for the species in Redesdale.
- Aug. 5. Watched a pair of Redpolls feeding a young Cuckoo near Birdehopecraig Hall, Rochester.
- ,, 15. Saw six Kingfishers on the Rede near Leam Cottage, West Woodburn.

Entomology.

- June 3. Saw Burnet Companion in large numbers on the slopes of the railway cutting near Leaderfoot Viaduct. At the same time and place I came upon a colony of cocoons of the Six-Spot Burnet. Unfortunately, when I again visited the site, on 1st July, it had been scorched by a fire on the cutting slope.
- Aug. 6 and 7. Saw Blandina in considerable numbers at Gattonside Moss and in a wood near Selkirk.
- ,, 6. Saw six small Copper Butterflies down Packman's Burn.
- Sept. 9. Saw Peacock Butterfly in Reservoir Cottage garden. This also is my first record for Redesdale.

Botany.

- May 28. Found a large colony of Pink Wood Sorrel in Deadwood.
- June 22. When showing a party of friends the colony of Adders Tongue Fern at Catcleugh, one of them came upon a single plant of Moonwort Fern.

Although the late Mr Newlands told me that the plant was to be found in the Manse croft, at the Sills Burnfoot, it is the first time I have seen it.

It may be of interest to say that the Great Spotted Woodpeckers again reared a brood in Deadwood.

(b) By Colonel W. M. LOGAN HOME, Edrom House, Duns.
(In garden, unless otherwise stated.)

Date.	Ornithology.	Entomology.
1939.		
Sept. 25 .	Great Spotted Wood-pecker (1).	Grayling (<i>Satyrus semele</i>) (1). Sept. 5.
Nov. 10 .	Willow-tit (1).	Peacock (<i>Vanessa Io</i>) (1). (See Note in Secretary's Report.)
1940.		
March 2 .	Willow-tit (1).	
„ 20 .	Barn-owl (1).	
„ 27 .	„ „ (1).	
„ 28 .	„ „ (1).	
1941.		
Feb. 20 .	Great Spotted Wood-pecker (1).	Humming-bird Hawk-moth (<i>M. stellatarum</i>) (1). July 26.
July 2 .	Turtle Dove (1).	Painted Lady (<i>V. cardui</i>) (2). Sept. 12, 19. Oct. 4 (1).
1942.		
Feb. 12-15	Tufted Duck ♀ (1 only)	Painted Lady (<i>V. cardui</i>) (1). June 6.
March 25, 26	Magpie (3).	
July 8-27 .	„ (2).	
„ 5, 21 }	Hawfinch (2).	
Aug. 11 }		
1943.		
Jan. 8, 11 .	Brambling (1).	Peacock (<i>Vanessa Io</i>) (1). Sept. 18.
Feb. 15 .	Magpie (1).	
Nov. 24, 27	„ (4).	

Date.	Ornithology.	Entomology.
1944. Aug. 13.	Willow-tit (2).	Elephant Hawk-moth (<i>Chærocampa elpenor</i>) larva found on Sept. 21 (1). Also 1 larva found over at Coldingham, which hatched out into a beautiful moth in June 1945.
1945. April 17 ,, 18 ,, 29 July 15 May 27	Willow-tit (1). Oyster-catcher (flying over garden) (2). Goldfinch (1). Hawfinch (3). Corncrake (heard in hayfield in front of my house).	Humming-bird Hawk-moth (<i>M. stellatarum</i>) (1). May 14, 19. Death's-head Hawk-moth (<i>Acherontia atropos</i>) (1). (See Note in Secretary's Report.)
1946.		<i>Odezia atrata</i> (moth) (1). July 3. Seen in some numbers at field meeting at Coldingham. Larva feeds on "earth-nut." <i>Triphosa dubitata</i> (moth) (1). Sept. Text-book says, "pretty rare in Scotland."

(c) By A. M. PORTEOUS, Coldstream.

Ornithology.

1946.

Feb. 11. Great Grey Shrike. Swinton Mill, Coldstream.

April. Pair Goldfinches, Siskins, Greenfinches and cock Yellow-Bunting feeding together on lawn—a fine study in gold and yellow. Coldstream.

Aug. 25. Greenshank. Tweedside, Coldstream.

Entomology.

Aug. 1942. Convolvulus Hawk-moth. Milne Graden, Coldstream.
July 1944. Spurge Hawk-moth. Oxenrig, Coldstream.

- Aug. 1944. Convolulus Hawk-moth, Coldstream.
Larva Small Elephant Hawk-moth (hatched following spring). Coldstream.
- Aug. 1946. Larva Small Elephant Hawk-moth. Hirsel, Coldstream.
-

During the years 1939-45 one or two obvious changes took place with regard to numbers of certain birds in the Coldstream area.

From 1939 onwards Turtle Doves became no rarity during summer months and were seen frequently on the estates around, while their pleasing call could often be heard. In 1946 their numbers somewhat declined, however. An interesting occurrence of their nesting comes from Hirsel grounds, the seat of the Rt. Hon. The Earl of Home.

Another pleasing increase is that of the Kestrel or Windhover, and it is now to be seen almost everywhere that corn-stacks have been built. The Kestrel is a great destroyer of rats and mice, is protected by law, and deserves its observation.

Cormorants became common on Tweed during the winter months for a season or two but are now less plentiful. In 1943 I watched nine perched together on a tree near Birgham. The rather vulture-like appearance of these large dark birds gave an unusual touch to the Tweedside scene.

The least pleasing and most extensive increase is that of the Carrion Crow, which is now in very considerable numbers. The Jay also is appearing in woods that have not known it for many years.

It would appear that the Whooper Swan is now a much more regular winter visitor to Tweed than formerly: groups of from six to thirty birds having been noted these last few years and in comparatively mild winters.

The Oyster-catchers return annually to Tweed banks, and, if neither flood nor other agency destroys their clutch, young are successfully reared. A pair of Ring-plover were in evidence for two seasons, but seemingly did not nest.

A pair of Barnacle Geese fed for several weeks in 1944 on Tweed banks above Coldstream.

Quail were seen at West Learmouth in 1944 and in 1946 the Corncrake was again heard.

(d) By T. M. TAIT, Berwick.

(1) *Ornithology.*

11th May 1942.—An injured Gannet (*Sula Bassana*) lying at riverside. I put it into the river; but later it died.

22nd September 1945.—3 Little Stints (*Calidris Minuta*) on shore behind the Pier.

14th September 1946.—4 Godwits (*Limosa Lapponica*) on shore behind the Pier.

Entomology.

September 1945.—Red Admiral Butterflies very numerous.

(2) *Waxwings at Berwick.*

Walking up the New Road on 9th November 1946 I noticed some birds in the hedge that runs up the Castle Hills braes. They were coming down to the river's edge to drink and I saw they were Waxwings (*Ampelus garrulus*), irregular winter visitors to Britain from Russian Lapland. On 4th December 1921 I saw a party of six to eight of these birds feeding on dog-hips at East Ord. They stayed there for about a fortnight. On 11th and 12th November 1931 a party of six to eight or ten were feeding on haws near the "Coffee Rock," New Road, Berwick. All were gone on 13th November. In 1941 a party of these birds were again seen from the New Road at Berwick.

This year the number was estimated at about forty on Castle Hills braes. They were all gone from there on Tuesday, 12th November. On Thursday, 14th November, I noticed a large flock of birds on trees in Tweedmouth Cemetery, and on going in saw that the birds were Waxwings—a large flock of fifty to sixty. They were feeding on large red berries. The tree was leafless, so I was unable to identify the species with certainty.

METEOROLOGICAL OBSERVATIONS IN BERWICKSHIRE DURING 1940.

Compiled by the Rev. A. E. Swinton of Swinton, M.A., F.R.Met.S.

Month.	Temperature.		Days with Temperature at or below 32°.		Bright Sunshine.		Days with Sun.	
	Maximum.	Minimum.	Hrs.	Days with Sun.	Hrs.	Days with Sun.		
Swinton House.								
Duns Castle.								
Marchmont.								
January .	41	46	48	47	44	36	6	
February .	51	54	54	53	50	10	20	
March .	54	52	55	62	58	63	17	
April .	61	52	61	65	62	65	27	
May .	71	70	70	79	70	75	34	
June .	86	83	82	87	84	87	40	
July .	70	75	74	81	78	68	42	
August .	75	70	79	83	79	83	37	
September .	71	61	71	76	73	68	32	
October .	56	56	59	69	60	58	30	
November .	51	49	51	53	54	55	27	
December .	50	53	52	54	54	48	23	
Year .	86	83	82	87	84	87	6	
							126	
							78	
							81	
							110	
							80	
							106	
							1363	
							0	
							286	
							1267	
							0	
							270	
							1298	
							0	
							276	

METEOROLOGICAL OBSERVATIONS IN BERWICKSHIRE DURING 1941.

Month.	Temperature.		Days with Temperature at or below 32°.		Bright Sunshine.		Swinton House.															
	Maximum.		Minimum.		Hrs. with Sun.																	
	Hrs.	Days with Sun.	Hrs.	Days with Sun.	Hrs.	Days with Sun.																
January	39	44	44	42	3	11	-4	28	14	29·6	12	32·9	12									
February	45	50	52	52	50	13	15	17	8	12	21	24	19	23	57·8	15	60·0	15	73·8	17		
March	53	55	55 . . . . .	. . . . .	26	26	24	27	24	18	22	13	22	84·5	25	67·9	24	77·4	23		
April	54	56	57	62	59	60	25	29	27	21	6	5	10	4	14	94·4	20	69·5	19	70·7	19
May	60	60	66	60	72	31	31	28	30	30	1	3	3	2	5	144·3	30	139·4	30	122·1	30
June	83	83	88	83	87	37	36	37	34	37	1 . . . . .	... . . . . .	... . . . . .	... . . . . .	... . . . . .	190·8	28	162·5	26	140·7	27
July	77	76	79	77	80	42	41	42	44	44 . . . . .	... . . . . .	... . . . . .	... . . . . .	... . . . . .	... . . . . .	143·3	28	113·3	27	123·2	26
August	74	74	79	74	77	42	42	40	42	42 . . . . .	... . . . . .	... . . . . .	... . . . . .	... . . . . .	... . . . . .	148·2	31	128·2	31	109·8	31
September	73	74	76	75	75	40	40	39	39	40 . . . . .	... . . . . .	... . . . . .	... . . . . .	... . . . . .	... . . . . .	86·0	16	88·2	24	91·9	24
October	64	62	69	65	64	31	31	29	27	28 . . . . .	... . . . . .	1	2	6	3	78·6	24	83·4	23	71·2	22
November	56	53	56	52	52	24	25	22	21	20 . . . . .	... . . . . .	9	8	11	7	32·0	13	38·1	17	37·2	17
December	52	51	53	52	52	23	24	18	21	19 . . . . .	... . . . . .	11	12	16	18	31·9	17	47·8	21	38·5	20
Year	83	83	80	88	83	87	3	11 . . . . .	... . . . . .	-4	-7	-8 . . . . .	... . . . . .	94	93	120	80	136	261	1027·9	269

Month.	Temperature.		Bright Sunshine.				Days with Temperature at or below 32°.	Days with Sun.	Hrs. with Sun.	Days with Sun.	Hrs. with Sun.
	Maximum.	Minimum.	Hrs.	Days with Sun.	Hrs.	Days with Sun.					
January	49	49	50	17	19	8	18	15	29	25	28
February	42	41	48	16	19	...	15	12	26	26	28
March	61	61	60	20	19	...	18	13	14	21	21
April	71	71	72	29	29	...	27	26	6	3	12
May	68	66	81	30	31	...	27	26	3	3	5
June	80	78	85	36	37	36	34	34	...	...	...
July	78	77	81	77	82	...	41	42	40	38	...
August	80	79	83	81	80	...	45	42	42	42	...
September	69	67	74	71	69	...	35	35	29	27	...
October	62	65	64	62	65	...	31	32	28	31	28
November	54	56	55	55	52	...	24	27	23	25	22
December	56	52	54	55	54	...	20	23	18	23	16
Year	80	79	85	81	85	...	16	19	15	12	...
							111	98	95	139	285
							11	11	11	11	9
							46.0	46.0	46.0	46.0	13
							73.6	73.6	73.6	73.6	13
							21	21	21	21	13
							187.3	187.3	187.3	187.3	21
							30	30	30	30	21
							213.4	213.4	213.4	213.4	21
							5	5	5	5	21
							214.9	214.9	214.9	214.9	21
							29	29	29	29	21
							191.0	191.0	191.0	191.0	27
							181.5	181.5	181.5	181.5	27
							26	26	26	26	27
							141.7	141.7	141.7	141.7	26
							199.9	199.9	199.9	199.9	30
							31	31	31	31	30
							166.0	166.0	166.0	166.0	30
							82.5	82.5	82.5	82.5	28
							98.3	98.3	98.3	98.3	28
							156.3	156.3	156.3	156.3	28
							27	27	27	27	28
							132.9	132.9	132.9	132.9	28
							73.9	73.9	73.9	73.9	28
							24	24	24	24	28
							69.8	69.8	69.8	69.8	25
							24	24	24	24	25
							44.9	44.9	44.9	44.9	18
							17	17	17	17	18
							38.0	38.0	38.0	38.0	18
							15	15	15	15	18
							12	12	12	12	18
							10	10	10	10	18
							7	7	7	7	18
							15	15	15	15	18
							11	11	11	11	18
							16	16	16	16	18
							11	11	11	11	18
							23	23	23	23	18
							25	25	25	25	23
							22	22	22	22	23
							23	23	23	23	23
							18	18	18	18	18
							20	20	20	20	20
							23	23	23	23	23
							18	18	18	18	18
							23	23	23	23	23
							16	16	16	16	16
							27	27	27	27	27
							30	30	30	30	30
							21	21	21	21	21
							26	26	26	26	27
							187.3	187.3	187.3	187.3	27
							30	30	30	30	27
							191.0	191.0	191.0	191.0	27
							29	29	29	29	27
							181.5	181.5	181.5	181.5	27
							26	26	26	26	27
							141.7	141.7	141.7	141.7	27
							21	21	21	21	27
							187.3	187.3	187.3	187.3	27
							30	30	30	30	27
							191.0	191.0	191.0	191.0	27
							29	29	29	29	27
							181.5	181.5	181.5	181.5	27
							26	26	26	26	27
							141.7	141.7	141.7	141.7	27
							21	21	21	21	27
							187.3	187.3	187.3	187.3	27
							30	30	30	30	27
							191.0	191.0	191.0	191.0	27
							29	29	29	29	27
							181.5	181.5	181.5	181.5	27
							26	26	26	26	27
							141.7	141.7	141.7	141.7	27
							21	21	21	21	27
							187.3	187.3	187.3	187.3	27
							30	30	30	30	27
							191.0	191.0	191.0	191.0	27
							29	29	29	29	27
							181.5	181.5	181.5	181.5	27
							26	26	26	26	27
							141.7	141.7	141.7	141.7	27
							21	21	21	21	27
							187.3	187.3	187.3	187.3	27
							30	30	30	30	27
							191.0	191.0	191.0	191.0	27
							29	29	29	29	27
							181.5	181.5	181.5	181.5	27
							26	26	26	26	27
							141.7	141.7	141.7	141.7	27
							21	21	21	21	27
							187.3	187.3	187.3	187.3	27
							30	30	30	30	27
							191.0	191.0	191.0	191.0	27
							29	29	29	29	27
							181.5	181.5	181.5	181.5	27
							26	26	26	26	27
							141.7	141.7	141.7	141.7	27
							21	21	21	21	27
							187.3	187.3	187.3	187.3	27
							30	30	30	30	27
							191.0	191.0	191.0	191.0	27
							29	29	29	29	27
							181.5	181.5	181.5	181.5	27
							26	26	26	26	27
							141.7	141.7	141.7	141.7	27
							21	21	21	21	27
							187.3	187.3	187.3	187.3	27
							30	30	30	30	27
							191.0	191.0	191.0	191.0	27
							29	29	29	29	27
							181.5	181.5	181.5	181.5	27
							26	26	26	26	27
							141.7	141.7	141.7	141.7	27
							21	21	21	21	27
							187.3	187.3	187.3	187.3	27
							30	30	30	30	27
							191.0	191.0	191.0	191.0	27
							29	29	29	29	27
							181.5	181.5	181.5	181.5	27
							26	26	26	26	27
							141.7	141.7	141.7	141.7	27
							21	21	21	21	27
							187.3	187.3	187.3	187.3	27
							30	30	30	30	27
							191.0	191.0	191.0	191.0	27
							29	29	29	29	27
							181.5	181.5	181.5	181.5	27
							26	26	26	26	27
							141.7	141.7	141.7	141.7	27
							21	21	21	21	27
							187.3	187.3	187.3	187.3	27
							30	30	30	30	27
							191.0	191.0	191.0	191.0	27
							29	29	29	29	27
							181.5	181.5	181.5	181.5	27
							26	26	26	26	27
							141.7	141.7	141.7	141.7	27
							21	21	21	21	27
							187.3	187.3	187.3	187.3	27
							30	30	30	30	27
							191.0	191.0	191.0	191.0	27
							29	29	29	29	27
							181.5	181.5	181.5	181.5	27
							26	26	26	26	27
							141.7	141.7	141.7	141.7	27
							21	21</td			

METEOROLOGICAL OBSERVATIONS IN BERWICKSHIRE DURING 1943.

Month.	Temperature.		Days with Temperature at or below 32°.		Bright Sunshine.		Swinton House.																	
	Maximum.	Minimum.	Hrs.	Days with Sun.	Hrs.	Days with Sun.	Hrs.	Days with Sun.																
Marchmont.	Cowdenknowes.	Swinton House.	Manderston.	Duns Castle.	Marchmont.	Cowdenknowes.	Swinton House.	Manderston.																
	Whitchester.	Marchmont.	Duns Castle.	Manderston.	Whitchester.	Marchmont.	Duns Castle.	Manderston.																
	Whitchester.	Marchmont.	Duns Castle.	Manderston.	Whitchester.	Marchmont.	Duns Castle.	Manderston.																
	Whitchester.	Marchmont.	Duns Castle.	Manderston.	Whitchester.	Marchmont.	Duns Castle.	Manderston.																
	Whitchester.	Marchmont.	Duns Castle.	Manderston.	Whitchester.	Marchmont.	Duns Castle.	Manderston.																
	Whitchester.	Marchmont.	Duns Castle.	Manderston.	Whitchester.	Marchmont.	Duns Castle.	Manderston.																
	Whitchester.	Marchmont.	Duns Castle.	Manderston.	Whitchester.	Marchmont.	Duns Castle.	Manderston.																
	Whitchester.	Marchmont.	Duns Castle.	Manderston.	Whitchester.	Marchmont.	Duns Castle.	Manderston.																
	Whitchester.	Marchmont.	Duns Castle.	Manderston.	Whitchester.	Marchmont.	Duns Castle.	Manderston.																
	Whitchester.	Marchmont.	Duns Castle.	Manderston.	Whitchester.	Marchmont.	Duns Castle.	Manderston.																
	Whitchester.	Marchmont.	Duns Castle.	Manderston.	Whitchester.	Marchmont.	Duns Castle.	Manderston.																
January	51	51	58	51	50	10	20	21	19	12	29	21	18	22	14	23	38-0	15	40-8	16	39-7	18		
February	53	53	57	55	54	18	25	27	22	20	30	26	22	8	9	11	3	12	90-2	26	87-2	25	105-0	26
March	58	58	60	59	58	18	25	25	22	26	24	20	10	5	11	9	11	124-2	25	114-6	26	130-0	26	
April	64	64	67	64	66	24	31	32	30	30	29	20	6	3	3	1	4	158-7	29	142-5	28	140-4	29	
May	69	69	75	71	74	22	28	27	25	32	30	11	4	4	5	5	3	191-0	30	177-6	28	199-7	27	
June	72	70	71	77	72	78	35	41	40	40	38	38	11	11	11	11	11	199-3	30	161-3	26	175-9	28	
July	85	85	84	89	85	84	35	41	42	40	39	42	11	11	11	11	11	164-7	30	151-5	29	162-3	26	
August	85	78	74	76	74	77	35	41	41	40	42	40	11	11	11	11	11	100-8	23	88-3	24	99-5	25	
September	66	66	66	69	67	68	24	31	34	28	29	30	7	1	1	1	1	111-7	27	98-2	22	115-6	27	
October	60	61	64	62	62	26	32	32	26	31	30	12	4	1	1	1	1	73-6	24	76-6	23	83-6	24	
November	53	58	58	60	58	55	19	25	26	22	27	24	11	10	13	6	17	59-6	20	73-5	20	68-6	19	
December	50	51	54	52	50	10	22	23	18	21	16	23	13	14	18	15	21	30-6	17	37-2	18	30-6	19	
Year	85	85	84	89	85	84	10	20	21	15	19	12	156	78	64	93	54	98	1342-4	296	1249-3	285	1350-9	294

1944.

METEOROLOGICAL OBSERVATIONS IN BERWICKSHIRE DURING 1945.

Month.	Temperature.		Days with Temperature at or below 32°.		Bright Sunshine.	
	Maximum.	Minimum.	Hrs. with Sun.	Hrs. with Sun.	Days with Hrs.	Days with Hrs.
January . .	44	48	48	48	10	8
February . .	50	58	57	60	59	56
March . .	65	68	68	71	69	66
April . .	70	70	73	71	70	22
May . .	73	71	71	78	73	72
June . .	73	72	71	77	73	77
July . .	73	74	74	78	76	76
August . .	80	78	79	84	82	43
September . .	70	69	69	73	71	70
October . .	65	69	69	71	68	64
November . .	52	57	56	58	57	50
December . .	47	57	50	51	55	50
Year . .	80	... 79	84	78	82	10
					13	1
					3	2
					94	2
					56	2
					79	2
					63	2
					91	2
					1250-1	293
					1195-9	283
					1258-8	291

RAINFALL IN BERWICKSHIRE DURING 1940.

Compiled by the Rev. A. E. Swinton of Swinton, M.A., F.R.Met.S.

Station.	Height above sea-level	St Abb's Head Signal Station.	Tweedhill.	Whitchester.	Oxendean (Duns).	Duns Castle.	Manderston.	Swinton House.	Lochton.	Marchmont.	Cowdenknowes.	Coldstream.	Swinton House.	Dura-	Hours.	
													tion.			
Month.																
January .	2.32	1.05	1.87	1.97	1.79	2.00	1.57	1.04	1.02	1.67	1.78	1.78	30.0*	{ 2.52 }		
February .	1.38	1.12	1.54	1.81	1.73	2.66	1.80	1.68	1.25	1.55	1.58	45.0	45.0			
March .	3.02	2.82	3.29	3.22	3.16	3.22	3.15	3.06	2.95	3.43	3.17	2.73	80.0			
April .	1.54	1.11	1.55	1.88	1.94	1.82	1.56	1.54	1.10	1.85	1.87	1.06	36.8			
May .	1.44	.91	1.24	1.34	1.14	1.10	1.20	1.00	.92	1.23	1.44	.87	20.8			
June .	.41	.75	.43	.52	.55	.53	.55	.58	.86	.65	.68	.62	15.4			
July .	8.79	8.11	8.51	7.46	7.51	7.92	6.49	7.15	7.51	7.34	6.03	7.97	109.0			
August .	1.00	.97	.93	.88	.74	.82	.80	.65	.88	.98	.98	.70	19.3			
September .	2.33	2.08	1.92	1.86	1.81	1.91	1.99	1.91	2.27	2.21	2.07	2.33	31.9			
October .	3.19	2.89	4.60	4.12	3.85	3.65	3.47	2.99	2.43	3.71	3.67	2.40	69.2			
November .	3.84	3.50	4.33	4.91	4.24	3.85	4.26	3.56	2.66	3.97	3.47	3.97	64.6			
December .	1.59	1.80	2.76	2.54	2.67	2.00	2.27	1.72	2.59	2.30	2.09	2.30	48.7			
Year .	30.85	27.11	32.97	32.51	31.13	31.44	29.11	26.88	26.44	30.79	28.83	27.47	570.7			

* Estimated; as snow and frost prevented hyetograph working properly.

RAINFALL IN BERWICKSHIRE DURING 1941.

Station.	Height above Sea-level	270'	50'	600'	500'	356'	290'	200'	150'	120'	98'	300'	838'	Duration.		
														Swinton House.	Whitchester.	Cowdenknowes.
Month.																
January	2.41	3.40	3.94	4.11	4.12	3.54	3.12	2.34	3.59	3.25	3.37	3.42	58.6			
February	4.44	4.01	6.81	6.99	6.06	4.23	4.04	3.12	4.52	4.29	4.11	4.28	96.4			
March	2.43	1.59	2.93	2.98	2.55	2.31	2.90	2.40	2.10	2.72	2.82	3.16	59.6			
April	1.09	1.04	1.73	1.68	1.59	1.40	1.43	1.41	1.30	1.75	1.38	1.76	32.9			
May	1.27	1.27	2.24	2.19	2.07	1.69	1.59	1.66	1.54	2.11	1.92	2.21	34.0			
June	1.91	1.50	1.20	1.07	1.46	1.08	1.66	1.28	1.42	1.14	2.56	1.42	11.2			
July	1.72	2.45	2.15	1.85	2.40	1.81	2.16	1.74	1.37	2.23	1.72	2.24	28.4			
August	3.35	2.91	3.74	3.51	3.69	3.23	2.94	3.56	3.32	3.21	3.15	4.64	44.5			
September	5.59	5.93	7.0	7.9	7.5	5.8	6.3	5.6	5.7	.59	.83	.69	13.8			
October	3.67	3.63	4.65	4.35	4.23	4.07	4.02	3.02	3.47	4.16	3.47	4.74	60.6			
November	3.18	2.84	3.58	3.24	3.27	2.85	2.53	2.78	2.53	2.84	3.22	4.01	50.7			
December	.46	.50	.75	.61	.66	.63	.40	.42	.41	.54	.57	.83	8.7			
Year	26.52	26.07	34.42	33.37	32.85	27.42	27.42	24.29	26.14	28.83	29.13	33.40	499.4			

RAINFALL IN BERWICKSHIRE DURING 1943.

Station.	Height above sea-level	50'	838'	600'	500'	356'	290'	200'	150'	98'	300'	220'	120'	Hours	Duration.	
															Swinton House.	Coldstream.
Tweedhill.	270'	50'	838'	600'	500'	356'	290'	200'	150'	98'	300'	220'	120'	Hours	Cowdenknowes.	
St Abb's Head.															Marchmont.	
Month.															Lochton.	
January .	2.78	1.89	3.14	3.11	2.62	2.59	2.56	2.28	2.28	3.13	3.26	1.88	51.7		Swinton House.	
February .	.92	1.05	1.65	1.35	1.24	1.22	1.29	.99	1.06	1.33	1.40	.87	21.1		Nisbet House.	
March .	1.06	.86	1.21	1.17	1.00	1.08	1.17	1.07	1.04	1.13	.85	1.05	17.6		Manderston.	
April .	.85	.84	.99	1.07	.99	1.05	.96	.81	.59	.80	.79	.75	13.9		Duns Castle.	
May. .	2.77	4.15	4.40	4.38	4.42	4.62	4.91	4.60	3.14	4.81	3.87	3.69	61.4		Oxendale (Duns).	
June .	1.91	1.96	2.06	2.75	2.53	2.69	2.11	1.95	3.32	2.77	3.12	1.84	30.1		Whitchester.	
July .	1.19	1.17	2.26	2.47	2.39	2.12	1.88	2.00	2.03	1.98	3.09	2.25	24.8		Tweedhill.	
August .	3.62	4.58	4.59	4.18	4.34	3.97	4.25	4.24	3.61	3.87	3.95	3.53	68.4		St Abb's Head.	
September .	2.01	1.93	2.38	2.06	1.92	2.28	1.97	1.70	1.50	1.87	2.05	1.55	29.8		Dunstanburgh.	
October .	2.02	2.30	2.14	2.05	1.99	2.26	2.10	2.01	1.76	2.25	2.27	1.98	37.6		Coldstream.	
November .	1.95	2.51	2.02	2.57	2.58	2.61	2.14	2.12	1.57	2.42	1.57	1.92	34.7		Swinton House.	
December .	.96	1.43	1.35	1.35	1.25	1.39	1.26	1.26	.84	1.30	.64	.94	32.2		Cowdenknowes.	
Year .	22.04	24.67	28.19	28.51	27.27	27.88	26.60	25.03	22.74	27.66	26.86	22.25	423.3		Marchmont.	

1944.

Station.	Height above sea-level	Month.	Dura-tion.	Cowdenknowes.		
				Swinton House.	Marchmont.	Lochton.
St Abb's Head.	270'	January .	.94	.82	1.62	1.38
		February .	.90	1.70	2.02	2.48
		March .	.58	.96	1.42	1.00
		April .	2.23	1.71	2.12	2.04
		May .	1.68	2.16	3.27	2.86
		June .	2.65	1.50	2.42	3.35
		July .	2.36	2.52	3.22	3.03
		August .	2.36	2.12	3.00	3.11
		September .	4.67	4.62	4.64	4.85
		October .	2.61	2.25	3.60	2.92
		November .	3.72	3.86	5.80	6.19
		December .	1.95	1.92	2.89	2.43
Year .			26.65	26.14	36.02	35.64
				33.59	27.88	31.28
					27.86	26.31
						31.84
						31.33
						444.2

RAINFALL IN BERWICKSHIRE DURING 1945.

Station.	Height above sea-level	Tweedhill.	St Abb's Head.	Whitchester.	Oxendean (Duns).	Duns Castle.	Manderston.	Nisbet House.	Swinton House.	Coldstream.	Lochton.	Marchmont.	Cowdenknowes.	Swinton House.	Dura-	Hours.	
															tion.		
Month.																	
January .	3.70	4.96	6.11	5.08	6.77	4.95	6.69	6.17	6.21	4.98	6.02	3.44	94.8				
February .	2.10	1.70	2.62	2.17	1.97	2.04	2.04	1.75	.95	1.82	2.10	2.06	34.5				
March .	.51	.42	.68	.62	.56	.51	.51	.64	.49	.57	.63	.74	11.6				
April .	1.05	1.57	1.60	1.51	1.35	1.16	1.24	.90	1.04	1.25	.88	.88	25.6				
May .	5.12	5.35	4.62	4.51	4.05	4.93	4.53	4.43	5.20	4.35	3.52	3.52	56.5				
June .	1.92	2.01	2.86	2.57	2.83	2.36	2.19	2.19	2.28	2.77	2.77	2.77	34.4				
July .	1.86	1.44	2.19	2.59	2.52	2.68	2.65	2.09	1.12	2.00	2.95	2.31	17.4				
August .	4.20	4.10	3.68	4.64	4.12	4.49	2.19	3.16	3.20	2.79	3.06	1.65	43.8				
September .	2.59	2.75	3.03	3.10	3.16	3.05	2.75	2.51	2.49	2.99	3.24	2.86	34.3				
October .	3.76	3.24	4.27	4.89	4.84	4.72	4.04	3.54	2.92	3.51	4.41	3.75	44.0				
November .	.63	.77	1.34	.84	.91	.86	.75	.70	.62	.85	.59	.59	12.5				
December .	2.79	2.24	2.58	2.14	2.03	2.22	1.97	2.03	1.46	1.29	1.95	1.83	38.6				
Year .	30.23	30.55	34.73	34.95	34.44	34.85	34.44	...	30.77	27.06	29.09	33.58	26.00	448.0			

Measuring
glass
broken.

TREASURER'S FINANCIAL STATEMENT FOR YEAR ENDING 30th SEPTEMBER 1946.

RECEIPTS.

Credit Balance at 30th September 1945	.	.	£61 2 1
<i>Subscriptions</i>	.	.	2 6 0
<i>Sale of Club Badges</i>	.	.	1 5 0
<i>Sale of Proceedings</i>	.	.	3 14 6

Official Expenses—

Secretary	.	.	£14 5 9
Treasurer, R. H. D.	.	.	3 1 4
Do. A. M. P.	.	.	nil.
Librarian	.	.	0 8 0

Clerical Expenses	.	.	17 15 1
<i>Chillingham Wild Cattle Association</i>	.	.	3 0 0
<i>Berwick Corporation</i>	.	.	1 2 3
<i>Cheque Book</i>	.	.	1 0 0
<i>Regional Council of British Archaeology</i>	.	.	0 4 0
Credit Balance	.	.	1 10 0
			14 10 2

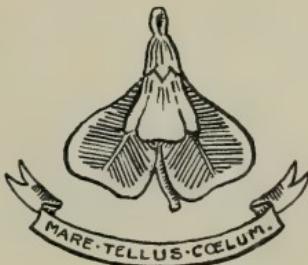
£68 7 7

APPROXIMATE BALANCE SHEET.

LIABILITIES.

Nil.	1 National Savings Certificate	.	£80 0 0
	Amount in Bank at date	.	14 10 2
			£94 10 2

2nd October 1946.—I have examined the above Financial Statement with the books and received accounts, and find it correct. The Bank Pass-Book and Certificates have been exhibited to me.
(Signed) J. B. DUNCAN, Hon. Auditor.



THE BERWICKSHIRE NATURALISTS' CLUB RULES AND REGULATIONS.

(Founded September 2nd, 1831.)

BADGE : WOOD SORREL.

MOTTO : " MARE ET TELLUS, ET, QUOD TEGIT OMNIA, CÆLUM."

1. The name of the Club is The Berwickshire Naturalists' Club (1831).
2. The object of the Club is to investigate the natural history and antiquities of Berwickshire and its vicinage (1831).
3. All interested in these objects are eligible for membership (1831).
4. The Club consists of (*a*) Ordinary Members, (*b*) Contributing Libraries and Societies, (*c*) Corresponding Members, eminent men of science whom the Club desires to honour (1883), (*d*) Honorary Lady Members, and (*e*) Associate Members, non-paying members who work along with the Club (1883).
5. New members are elected at any meeting of the Club by the unanimous vote of members present, the official forms having been duly completed, and the nominations having been approved by the officials of the Club. New members are entitled to the privileges of membership upon payment of the entrance and membership fees (1922), concerning which they will be duly notified (1937). If elected in September such member is eligible to attend the Annual Meeting for the year, no fees being due before 1st January (1937). The names of new members who have not taken up membership within six months of election, and after having received three notices, will be removed from the list (1925). The Club rules and list of members at date are sent on election (1937).

6. The entrance fee is 20s. (1937), and the annual subscription 10s. (1920). These are both due on election. Subsequent subscriptions are due after the annual business meeting, and entitle members to attend the meetings and to receive a copy of the Club's *History* for the ensuing year (1925). No fees or subscriptions should be sent until requested by the Treasurer (1937).
7. The number of Ordinary Members is limited to 400. The names of candidates are brought forward in priority of application, power being reserved to the President to nominate independently in special cases, irrespective of the number of members on the Roll (1884).
8. The *History* of the Club is issued only to members who have paid their year's subscription. Names of members who are in arrears for two years will be removed from the list after due notice has been given to them (1886).
9. The Club shall hold no property (1831), except literature (1906).
10. The Office-Bearers of the Club are a President, who is nominated annually by the retiring President; a Vice-President (1932), an Organising Secretary, an Editing Secretary, a Treasurer, and a Librarian, who are elected at the annual business meeting (1925), and who shall form the Council of the Club (1931), with in addition one lady and one gentleman co-opted by the Council as members of the Council to serve for the ensuing year. They will retire at the Annual Meeting, but being eligible can offer themselves for re-election (1937).
11. Expenses incurred by the Office-Bearers are refunded. The Secretary's expenses, both in organising and attending the meetings of the Club, may be defrayed out of the funds (1909).
12. Five monthly meetings are held from May till September (1831). The annual business meeting is held in the beginning of October. Extra meetings for special purposes may be arranged (1925).
13. Notices of meetings are issued to members at least eight days in advance (1831).
14. Members may bring guests to the meetings, but the notices of meeting are not transferable (1925). Guests may only attend when accompanied by members (1937).

15. At Field Meetings no paper or other refuse may be left on the ground. All gates passed through must be left closed (1925). No dogs are allowed (1932).
16. Members omitting to book seats for meals or drives beforehand must wait till those having done so are accommodated (1925).
17. Contributors of papers to the *History* receive five extra copies.
18. The Secretary must be notified of any suggested change in Rules not later than the 14th of September in each year, all members having not less than ten days' notice of such (1937).

"RULE FIRST AND LAST."

"Every member must bring with him good humour, good behaviour, and a good wish to oblige. This rule cannot be broken by any member without the unanimous consent of the Club" (1849)—"Correspondence of Dr George Johnston," p. 414 (Founder and first President of the Club).

THE LIBRARY.

The Library of the Club is at 2 Bankhill, Berwick-upon-Tweed. It contains a complete set of the Club's *History*, publications of kindred Societies, and other local and scientific literature. The keys may be had from Mr John Smith, 129 High Street, Berwick-upon-Tweed, in whose premises the Club Room is situated. Such keys must be signed for at time of issue, and any Part or Parts of the Club's *History* taken out on loan must also be entered in the book kept for the purpose. Extra copies (above three) of the Club's *History* are to Members, 3s. 6d. per part up to 1920 ; to Non-members, 6s. (1906). From 1921 to 1933, to Members, 6s. ; to Non-members, 10s. (1921). From 1934 until further notice, to Members, 5s. ; sister Societies and Libraries, 2s. 6d. ; to Non-members, 7s. 6d. (1937). Centenary Volume and Index, 10s. (1932). Future prices to be adjusted by the Council from time to time in accordance with cost (1934). (When only one copy of year is in stock, it is not for sale.—F. M. Norman, Secy., 20/8/1906.)

THE PINK SLIP.

B.N.C., 1939.

1. Members are reminded that under Rule 16 no dogs are allowed at meetings.
2. Care should be taken that no paper or other refuse be left on the ground, and that wickets and gates be closed.
3. Smokers are requested to see that matches and cigarette ends are extinguished before throwing away, especially in woods.
4. During talks, members are asked to form a wide circle round the speaker, to enable everyone to hear.
5. When the attention of members is desired, the Secretary will sound the Horn.
6. The President's car (or car selected by the Secretary in his absence) will carry the Club Flag, and members are asked not to pass or get in front of this car, unless they are leaving the meeting.
7. Dr Johnston's "Rule First and Last"— "Every member must bring with him good humour, good behaviour, and a good wish to oblige."

THE BERWICKSHIRE NATURALISTS' CLUB.

LIST OF MEMBERS, 1st January 1947.

Those marked with an Asterisk are Ex-Presidents.

LIFE MEMBERS.

	Date of Admission.
Craw, Mrs A. M.; 7 Riselaw Road, Edinburgh, 10	1933
Hope, Miss M. I.; Windmill House, Minchinghamton, Glos.	1913

ORDINARY MEMBERS.

Agnew, Col. H. C.; Bonjedward House, Jedburgh	1938
Aikman, John S.; Jedneuk, Jedburgh	1939
Aitchison, Mrs A. L.; Hyndsidehill, Gordon, Berwickshire	1930
Aitchison, Mrs B. H.; 15 Frogstone Road West, Edinburgh, 10	1919
Aitchison, Henry A.; Lochton, Coldstream	1946
Aitchison, S. C. de L.; Coupland Castle, Wooler	1943
Aitchison, Miss Shena D.; do.	1946
Aitchison, Sir Walter de Lancey, Bart., M.A., F.S.A.; Coupland Castle, Wooler	1933
Aiton, Mrs Scott; Legerwood, Earlston	1936
Allan, John, M.A., F.S.A.; British Museum, London, W.C.1	1920
*Allhusen, S. D.; The Wynding, Beadnell, Chathill, Northumberland	1934
Allhusen, Mrs K. R.; The Wynding, Beadnell, Chathill, Northumberland	1923
Angus, T. C.; Rosybank, Coldstream	1933
Angus, W.; Record Office, General Register House, Edinburgh	1910
Baillie, John; 13 Langton Gate, Duns	1925
Baker, Mrs M. M.; 4 Devon Terrace, Berwick-upon-Tweed	1946
Baker, Walter B.; do.	1946
Barbour, Archibald; Bengairn, Chirnside	1946
Bell, Mrs Mary; Highcliff, Berwick-upon-Tweed	1946
Bell, Mrs M. L.; Northfield, St Abbs	1922
Bell, Robert B.; do.	1923
Bell, Rev. Wm. N., M.A.; 37 Oakfield Avenue, Glasgow, W. 2	1914
Biddulph, Sir Theophilus George; Bart.; The Pavilion, Melrose	1930
Biddulph, Lady; do.	1926
Bishop, Mrs Edith M.; Roxburgh House, Kelso	1946
Bishop, Mrs John; 1 Summerhill Terrace, Berwick-upon-Tweed	1925
*Blair, C. H. Hunter, M.A., D.Litt., F.S.A.; 57 Highbury, Newcastle-upon-Tyne	1918

LIST OF MEMBERS

		Date of Admission.
Blair, Miss J. I. H.;	Abbey Green, Jedburgh	1932
Blyth, Miss M. A.;	Garden Close, Sidestrand, Cromer, Norfolk	1931
Bolam, A. C.;	58 Ravensdowne, Berwick-upon-Tweed	1934
Bolam, Miss E. S.;	Crossgill, Alston, Cumberland	1935
Boyd, Rev. Halbert J.;	Yarrowlea, Selkirk	1935
Boyd, Commander John G.;	Whiterigg, St Boswells	1938
Boyd, Miss Jessie B.;	Faldonside, Melrose	1905
Briggs, Miss Margaret;	Thornington, Mindrum	1936
Broomfield, A. E.;	Struan, St Boswells	1938
Brownlow, Mrs W.;	Swansfield House, Alnwick	1936
Buist, A. A.;	Kirkbank, Roxburgh, Roxburghshire	1937
Buist, Miss Louise M.;	do. do.	1946
Buist, Mrs M. E.;	do. do.	1937
Cairns, Mrs J.;	Chainbridge House, Horncliffe-on-Tweed	1937
Calder, Mrs Dorothy M.;	New Heaton, Cornhill-on-Tweed	1946
Calder, Mrs Harriet G.;	Billiemains, Duns	1946
Calder, Mrs Mary A. H.;	Marigold, Chirnside	1923
Callen, Rev. Richard, M.A., LL.B.;	The Manse, Westruther, by Gordon, Berwickshire	1935
Cameron, Miss Elizabeth W.;	Trinity, Duns	1912
Carr, Miss Eleanor M.;	Homecroft, Horncliffe, Berwick-upon-Tweed	1928
Carr, Miss Mona ;	7 Louvaine Terrace, Berwick-upon-Tweed	1946
Carr, Robert, c/o Mrs David Carr,	191 South Croxton Road, London, S.E. 21	1890
Caverhill, Miss H. F. M.;	2 Ravensdowne, Berwick-upon-Tweed	1923
Chartres, Mrs Mary ;	Mindrum, Northumberland	1930
Clark, J. H.;	Market Place, Rothbury	1933
Clark, Wm. Donald ;	West Ord, Berwick-upon-Tweed	1926
Clay, A. Thomson, W.S.;	18 South Learmonth Gardens, Edinburgh, 4	1930
Clay, Miss B. A. Thomson;	do. do.	1939
Clay, Miss P. Thomson;	do. do.	1939
Clennell, Miss Amy Fenwicke;	Dunstan House, Alnwick	1925
Clennell, Miss C. M. Fenwicke;	Glanton, Northumberland	1925
Cockburn, J. W.;	Whiteburn, Grantshouse	1925
Collingwood, John C.;	Cornhill House, Cornhill-on-Tweed	1902
Cowan, Mrs Allister;	Eastfield, Bowden, St Boswells	1929
Cowan, Henry Hargrave ;	The Roan, Lauder	1931
Cowe, Robert Crowe ;	Butterdean, Grantshouse	1920
Craw, H. A.;	7 Riselaw Road, Edinburgh, 10	1933
Cresswell, H. G. Baker;	Preston Tower, Chathill, Northumberland	1938
Cresswell, Mrs ;	Hauxley Hall, Amble, Northumberland	1923
Croal, Mrs J. B.;	Thornton, Berwick-upon-Tweed	1928
Curle, F. R. N.;	Greenyards, Melrose	1904
Danford, Miss A. B.;	Hawthornden, St Boswells	1931
Darling, Adam D.;	The Friars, Bamburgh	1923

Date of
Admission.

Darling, R. Stormonth-, W.S.; Rosebank, Kelso	1936
Davidson, George E.; Godscroft, Duns	1946
Davidson, Mrs M.; Kildonan, Yetholm, Kelso	1929
Dickinson, Mrs A. H.; St Aidans, Spittal, Berwick-upon-Tweed	1933
Dickson, Miss A.; Woodhouse, Dunscore, Dumfriesshire	1938
Dickson, A. H. D., C.A.; 15 Woodlands Terrace, Glasgow	1925
Dickson, Miss Marjorie B.; 7 Doune Terrace, Edinburgh, 3	1929
Dickson, W. S.; 6 Circus Gardens, Edinburgh, 3	1933
Dixon-Johnson, Cuthbert J.; Middle Ord, Berwick-upon-Tweed	1946
Dodds, Ralph Herbert, M.C., F.G.I.; Avenue House, Berwick-upon-Tweed	1903
Douglas, Rev. J. L.; Manse of Eccles, Greenlaw	1928
Douglas, Mrs W. S.; Mainhouse, Kelso	1925
Duncan, John Bishop; 6 Summerhill Terrace, Berwick-upon-Tweed	1923
Dunlop, Mrs Clementina; Whitmuir, Selkirk	1933

Eardley-Wilmot, Mrs; 9 St Marks Road, Leamington, Warwickshire	1938
Easton, Wm. R.; Summerside, Jedburgh	1923
Elliot, Miss G. A.; Birgham, Coldstream	1936
Elliot, Mrs Walter; Harwood, Hawick	1939
Elliot, Wm. Marshall; High Street, Coldstream	1909
Elliot, W. R.; Birgham, Coldstream	1936
Erskine, Mrs Margaret C.; The Anchorage, Melrose	1907
*Evans, A. H., Sc.D., F.Z.S.; Cheviot House, Crowthorne, Berks	1875

Fairfax, Miss F. Ramsay; Crosskeys Hotel, Kelso	1931
Falconer, Mrs Agnes W.; Auchencrow Mains, Reston	1925
Ferguson, Miss J. J.; Ellem Cottage, Duns	1937
Fleming, Mrs; Scots Gate, Berwick-upon-Tweed	1926
Fleming, George J.; 41 East High Street, Lauder	1946
Forster, C. P., M.A.; 1 Quay Walls, Berwick-upon-Tweed	1934
Fraser, Rev. D. D., M.A.; The Priory, Woodmarket, Kelso	1922
Furness, Sir Christopher, Bart.; Netherbyres, Ayton, Berwickshire	1932

Gibb, Miss Margaret L. Shirra; The Loanin, Lauder	1921
Gilchrist, Captain W. H.; 6 Churchill, Edinburgh, 10	1938
Gooderham, Rev. H. B.; The Rectory, North Berwick	1934
Grant, James G.; Hermitage, Kelso	1939
Gray, Miss Mary; 4 Bankhill, Berwick-upon-Tweed	1925
Gray, Miss M.; 7 Marygate, Berwick-upon-Tweed	1945
Grieve, Miss Jessie C.; Anchorage, Lauder	1924
Gunn, Rev. Peter B.; The Manse, Roxburgh	1923

Haggerston, Sir Carnaby de Marie, Bart.; Ellingham Hall, Chathill, Northumberland	1937
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LIST OF MEMBERS

	Date of Admission.
Hardy, Mrs Emily W.; 11 Bailiffgate, Alnwick	1939
Harrison, Mrs B.; Levenlea, Selkirk	1937
Hastie, Alex.; Ravelston, Chirnside	1937
Haward, Tristram W., M.A.; Abbey Lands, Alnwick	1939
Hayward, Miss Ida M., F.L.S.; 7 Abbotsford Road, Galashiels	1924
Henderson, J. D.; Chester Dene, Belford, Northumberland	1937
Henderson, T. S.; Brig House, Kelso	1936
Herbert, H. B., M.A.; The Cottage, Fallodon, Christon Bank, Alnwick	1921
Herriot, Miss Jean M.; West Croft, East Ord, Berwick-upon-Tweed	1926
Hicks, Rev. William Barry, M.C.; The Vicarage, Berwick-upon-Tweed	1946
Hogarth, Mrs Betty V.; 31 North Terrace, Berwick-upon-Tweed	1946
Hogarth, George Burn; Foulden Hill, Berwick-upon-Tweed	1931
Hogarth, George Gilroy; Commercial Bank, Ayton	1922
Hogg, John; Roselea, Kelso	1925
Holderness-Roddam, Mrs Helen M. G.; Roddam Hall, Wooperton, Northumberland	1926
Home, The Rt. Hon. The Earl of; The Hirsel, Coldstream	1915
Home, George; Cairndinnis, nr. Haddington	1929
Home, Major Gordon; Langhaugh House, Galashiels	1946
Home, Miss H. M. Logan; Silverwells, Coldingham, Berwickshire	1927
*Home, Sir John Hepburn Milne; Irvine House, Canonbie, Dumfriesshire	1898
Home, Lady Milne; Irvine House, Canonbie, Dumfriesshire	1930
Home, Miss Sydney Milne; The Cottage, Paxton, Berwick-upon-Tweed	1924
Home, Lt.-Col. William M. Logan; Edrom House, Edrom	1936
Hood, James; Linhead, Cockburnspath	1932
Hood, T.; do. do.	1937
Hope, Miss Katherine M.; Cowdenknowes, Earlston	1946
Hope, Wm. Weston; Braehead, St Boswells	1931
Hope, Mrs M. D.; do. do.	1931
Horsburgh, Mrs E. M.; Hornburn, Ayton	1939
Howard, Mrs Mary L.; Greystone Cottage, Dunstan, Alnwick	1939
Hull, Rev. J. E.; Belford Vicarage, Northumberland	1931
Hunt, Mrs E. A.; Greenwell, Chirnside	1946
Hunter, Edward; Wentworth, Gosforth, Newcastle-upon-Tyne	1907
Hunter, Mrs; Anton's Hill, Coldstream	1924
*James, Captain Sir F., Bart.; Beech Grove, Ascot, Berks	1901
Jardine, Mrs A. S. H.; Chesterknowes, by Selkirk	1933
Jeffrey, Mrs D. M.; Bewlie, St Boswells	1935
Johnson, Miss E. G.; 7 Marygate, Berwick-upon-Tweed	1937
Johnson, Miss Eva E. R., M.A.; 7 Marygate, Berwick-upon-Tweed	1937
Johnson, John Bolam, C.A.; 13 York Place, Edinburgh	1918

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Johnston, Robert G., O.B.E.; Solicitor; Duns	1907
Joicey, The Hon. Lady; Ford Castle, Berwick-upon-Tweed	1939
Keenlyside, Ronald; 10 Bondgate Without, Alnwick	. . . . .	1933
Kelly, Henry; Bellshill, Belford, Northumberland	. . . . .	1937
Kelly, Mrs Maud; do. do.	. . . . .	1937
Kennaway, Robert Owen; The Lodge, Lauder	. . . . .	1946
Lake, John Romans; East Ord, Berwick-upon-Tweed	. . . . .	1925
Lamb, Rev. George; 1 Wood Street, Greenock	. . . . .	1939
Leadbetter, James G. Greenshields; Spital Tower, Denholm	. . . . .	1931
Leadbetter, Mrs E. M. G.; Knowesouth, Jedburgh	. . . . .	1932
Leadbetter, Miss S.; do. do.	. . . . .	1937
Leather, Mrs Margaret Ethel, F.R.S.S.; c/o Martins Bank, Belford	. . . . .	1919
Leather, Miss R. M.; Moorswood Cottage, Herons Ghyll, Uckfield, Sussex	. . . . .	1920
Lee, Miss Margaret A.; The Scaurs, Jedburgh	. . . . .	1939
Lennie, Thomas, M.A.; The Schoolhouse, Swinton, Duns	. . . . .	1946
Lindsay, Mrs; Arrabury, Ayton	. . . . .	1924
Lindsay, John Vassie; Cornhill Farm House, Cornhill-on-Tweed	. . . . .	1946
Little, Rev. James Armstrong; The Vicarage, Norham, Northumberland	. . . . .	1946
Little, Mrs Nora; Crotchet Knowe, Galashiels	. . . . .	1923
Loch, Colonel J. Carysfort, C.B.E.; House of Narrow Gates, St Boswells	. . . . .	1936
Loch, Mrs H. G. M.; House of Narrow Gates, St Boswells	. . . . .	1939
Longmuir, Rev. James Boyd; Manse of Swinton, Duns	. . . . .	1946
Low, Miss Elizabeth L.; Douglas Cottage, Melrose	. . . . .	1946
Low, Miss K. M.; Bridgeland, Selkirk	. . . . .	1935
Lyal, Mrs Clara; Southdean, Hawick	. . . . .	1925
Lyal, Mrs David; Cammerlaws, Gordon	. . . . .	1939
Lyal, Miss M. M.; c/o Lord Polwarth, 4 Great King Street, Edinburgh	. . . . .	1935
Macalister, Mrs Isabel; St James Manse, Yetholm, Kelso	. . . . .	1931
Mackenzie, Mrs Helen B.; Tree Tops, Bowden, St Boswells	. . . . .	1939
M'Callum, Rev. Wm., M.A.; The Manse, Makerstoun, Kelso	. . . . .	1917
M'Creadh, Rev. J. F., M.A.; The Manse, Mertoun, St Boswells	. . . . .	1923
M'Creadh, Mrs; do. do.	. . . . .	1923
M'Creadh, Mrs H. R.; Gainslaw House, Berwick-upon-Tweed	. . . . .	1928
M'Creadh, Mrs W. R.; Cheviot House, Castle Terrace, Berwick-upon-Tweed	. . . . .	1938
M'Donald, Dr D. T.; South Bank, Belford, Northumberland	. . . . .	1937
M'Dougal, Capt. Arthur R.; Blythe, Lauder	1920
M'Dougal, Mrs H. Maud; do. do.	1939
M'Ewen, Miss C. M., Marchmont, Greenlaw	1946

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*M' Ewen, Captain John Helias F.; Marchmont, Greenlaw	1931
M'Keachie, Rev. Alfred, M.A.; The Manse, Chirnside	1923
M'Whir, Mrs M. H.; Viewcraig, Seaside Place, Aberdour	1938
Maddan, James G.; Aldon House, West Malling, Kent	1922
Marr, James, M.B., C.M.; Ivy Lodge, Greenlaw	1898
Marshall, Wm. James; Northumberland Avenue, Berwick-upon-Tweed	1904
Martin, Charles Picton; Broomhouse, Duns	1925
Martin, Mrs; do. do.	1925
Martin, Mrs M.; Friars Hall, Melrose	1929
Meikle, John; Langrigg, Whitsome, Chirnside	1925
Middlemas, Mrs Catherine; Bilton Hill, Alnwick	1928
Middlemas, Robert; do. do.	1898
Middlemas, R. J., M.A.; Prudhoe Croft, Alnwick	1928
Milburn, Sir Leonard J., Bart.; Guyzance, Acklington	1927
Milligan, J. A.; Blackhill House, Balerno, Midlothian	1942
Mills, Fred; Mayfield, Haddington	1916
Mills, George H.; Greenriggs, Duns	1924
Mills, Mrs Isabella B. B.; Greenriggs, Duns	1946
Minchin, Mrs K. W.; c/o Col. Molesworth, Cruicksfield, Duns	1938
Mitchell, Miss Alice; Chiefswood, Melrose	1933
Mitchell, Major C., C.B.E., D.S.O.; Pallinsburn, Cornhill-upon-Tweed	1938
Mitchell, Mrs C.; Pallinsburn, Cornhill-upon-Tweed	1938
Molesworth, Col. F. C.; Culworth, Bideford, Devon	1938
Molesworth, Col. Wm., C.I.E., C.B.E., I.M.S.; Cruicksfield, Duns	1923
Molesworth, Mrs Winifred Ann; do. do.	1923
Muir, Mrs Alice C.; Ettrickshaws, Selkirk	1934
Muir, Miss Margaret; do. do.	1937
Murray, Mrs Marian Steel; 8 Northumberland Avenue, Berwick-upon-Tweed	1946
Napier, G. G., M.A.; Strathairly, 22 Braidburn Terrace, Edinburgh, 10	1901
Neilson, W. K.; Lintalee, Jedburgh	1933
Neilson, Mrs; do. do.	1933
Newbigin, Miss A. J. W.; Glenview, Rothbury, Northumberland	1946
Ogg, James E.; Cockburnspath	1921
Oliver, Mrs Katherine; Edgerston, Jedburgh	1924
Otto, Miss Jane Margaret; Grey Crook, St Boswells	1931
Pape, Victor; Grindon Corner, Norham-on-Tweed	1939
Pape, Miss D. C.; do. do.	1933
Pape, Mrs E. M.; do. do.	1937
Parker, Frederick; "Cabra," 12 Castle Terrace, Berwick-upon-Tweed	1936
Pate, Mrs; Horseupcleugh, Longformacus	1928

	Date of Admission.
Paterson, James; Castlegate, Berwick-upon-Tweed	1927
*Paton, Rev. Henry, M.A.; Inchewan, Peebles	1897
Patterson, Miss Marjorie E.; Prudhoe House, Alnwick	1946
Peake, Lt.-Col. Frederick Gerard; The Holmes, St Boswells	1946
Peake, Mrs E. M.; do. do.	1946
Peters, H. R., Solicitor; Berwick-upon-Tweed	1938
Petrie, Charles Strachan, Solicitor; Duns	1920
*Piddocke, Rev. M. M.; Hillcote, Town Yetholm, Kelso	1912
Playfair, Mrs M. J.; Liberty, Elie, Fife	1937
*Plummer, Major Charles H. Scott; Sunderland Hall, Galashiels	1892
Plummer, Mrs Scott; do. do.	1928
Pool, G. D.; Underwood, Beechfield Road, Gosforth, Newcastle-upon-Tyne	1936
Porteous, Andrew Mather; Easterhill, Coldstream	1923
Prentice, Mrs B. J.; Tweedsyde, Berwick-upon-Tweed	1937
Pringle, Rev. Andrew; The Manse, Ladykirk, Norham-on-Tweed	1946
Pringle, Mrs; Torwoodlee, Galashiels	1932
Purves, Thomas; 18 Castle Terrace, Berwick-upon-Tweed	1923
Ramsay, Douglas Monro; Bowland, by Galashiels	1931
Ramsay, Miss E. Lucy; Stainrigg, Coldstream	1923
Riddell, Mrs Alice B.; Osborne House, Tweedmouth	1938
Riddell, Mrs E. E.; Sanson Seal, Berwick-upon-Tweed	1929
Ritch, D. T.; British Linen Bank, North Berwick	1936
Ritchie, Mrs Ishbel Juliet; The Holmes, St Boswells	1926
Ritchie, Rev. John, B.D.; The Manse, Gordon, Berwickshire	1916
Roberts, Mrs Agnes A.; Wellwood, Selkirk	1928
Robertson, Miss Ethel G.; Cawderstanes, Berwick-upon-Tweed	1946
Robertson, Miss Janet E.; do. do.	1946
Robertson, F. W.; Struan, Foxton, Alnmouth	1941
Robertson, Wm.; Stamford, Alnwick	1923
Robson, Mrs S. F.; Seacraig, St Aidans, Seahouses	1932
Robson-Scott, Miss Marjorie; Newton, Jedburgh	1918
Rodger, David; Muircleugh, Lauder	1920
Rodger, Miss Jane B.; Ferniehurst, Melrose	1939
Romanes, C. J. L., W.S.; Norham Lodge, Station Road, Duns	1908
Ross, Mrs Jean A.; Langlea, Castle Terrace, Berwick-upon-Tweed	1938
Runciman, Miss E.; Craigsford, Earlston	1937
Runciman, Viscountess; Doxford, Chathill, Northumberland	1934
Rutherford, W.; Boleside House, Galashiels	1933
Sanderson, C. W.; Birnieknowes, Cockburnspath	1937
Sanderson, Mrs F. B.; Wayside, Ayton	1925
Sanderson, J. Martin; Linthill, Melrose	1929
Sanderson, Mrs; do. do.	1929
Sanderson, Mrs M. C. D.; Northfield, Lowick, Berwick-upon-Tweed	1935

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Scott, Miss A.; Spylaw, Kelso	1932
Sharp, James; Heriot Mill, Heriot, Midlothian	1923
Sharpe, Mrs Gladys R.; The Park, Earlston	1946
Shelford, Mrs E.; The Elms, 4 West Acres, Alnwick	1930
Short, David C.; Humbleton, Wooler	1946
Short, Mrs Eva D.; Old Graden, Kelso	1927
Sidey, Mrs A. R.; 14 Ravensdowne, Berwick-upon-Tweed	1931
Simpson, Mrs Dorothy ; 9 Doune Terrace, Edinburgh, 3	1922
Simpson, J. P.; Beechcourt, Collington Rise, Bexhill-on-Sea	1932
Smail, Henry Richardson ; 4 Ravensdowne, Berwick-upon-Tweed	1919
Smith, Mrs Jane G.; Darnlee, Melrose	1946
Smith, J. E. T.; 3 Castle Terrace, Berwick-upon-Tweed	1925
Smith, Miss Wilson; Pouterlany, Duns	1925
Spark, William; Ellangowan, Melrose	1923
Spark, Mrs Lilias C. ; do.	1925
Spiers, Henry, M.D., F.R.C.S.Ed.; St Dunstan's, Melrose	1925
Sprot, Mrs M.; Riddell, Lilliesleaf, Melrose	1933
Sprunt, Mrs B. R.; 52 Ravensdowne, Berwick-upon-Tweed	1937
Steven, Alex. Cockburn Allison; "St Duthus," Berwick-upon-Tweed	1924
Stewart, Mrs J. B.; Faughhill, St Boswells	1934
Stodart, Charles ; Leaston, Humbie, East Lothian	1916
Stoddart, Miss A. Y.; Kirklands, Melrose	1933
Straker-Smith, Thomas Dalrymple; Carham Hall, Cornhill-on-Tweed	1946
Sutherland, Miss Helen; Cockley Moor, Dockray, Penrith, Cumberland	1932
Swan, Mrs A. G.; Rhuallan, Chirnside	1937
Swan, David Keir; do.	1946
Swan, Mrs D. K.; do.	1946
Swinton, Rev. Alan Edulf, M.A.; Swinton House, Duns	1915
Swinton, Mrs Alan E. ; do.	1923
Swinton, Brigadier Alan H. C.; Kimmerghame, Duns	1938
Tait, T. M'Gregor ; 45 Woolmarket, Berwick-upon-Tweed	1923
Tancred, Mrs D. H. E.; Old Free Manse, Crailing, Jedburgh	1938
Tankerville, Lady; Chillingham Castle, Wooler	1939
Thomson, Mrs A. D.; Nenthorn, Kelso	1928
Thomson, James Allan, F.F.A.; The Hill House, Coldingham	1946
Thomson, Mrs Moffat; Lambden, Greenlaw	1934
Thomson, Miss Nora; Denholm House, Denholm, Hawick	1937
Thorp, Collingwood F. B.A.; Narrowgate House, Alnwick	1923
Threipland, Mrs Eleanor Murray; Dryburgh Abbey, St Boswells	1929
Threipland, P. W. Murray; do.	1924
Trevelyan, Mrs M. E.; The Old Manse, Yetholm, Kelso	1937
Turner, Mrs Grey; Hunterscombe Manor, near Taplow, Bucks	1933
Tweedie, James; 8 Suffolk Road, Edinburgh, 9.	1920

	Date of Admission.
Usher, Miss Gertrude ; Shirrafield, Yetholm, Kelso	1924
Vallance, George; Cumledge Mills, Duns	1934
Veitch, Mrs David A.; Barniken, Duns	1927
Waddell, Mrs Evelyn ; Palace House, Jedburgh	1931
Walker, Maxwell; Springwells, Greenlaw	1932
Walker, William; Marchlea House, Coldstream	1946
Walker, Wm Buchanan Cowan; Marchlea House, Coldstream .	1946
Watherston, Mrs R. H.; Menslaws, Jedburgh	1939
Watson, John S. ; Easter Softlaw, Kelso	1921
Watson, Miss M.; The Hall, Yetholm, Kelso	1932
Webb, Charles; Longhorsley Tower, Longhorsley, Morpeth . .	1928
Whinham, John ; 3 Grosvenor Terrace, Alnwick	1913
Wight, Miss E. M.; Ecclaw, Cockburnspath	1931
Willets, Mrs H. M.; 7 North Terrace, Berwick-upon-Tweed . .	1939
Wilson, W. A. ; Sandy Lodge, Friar's Cliff, near Christchurch, Hants	1922
Wood, Frank W.; 20 Blackford Road, Edinburgh, 10	1924
Wood, Miss Marguerite; 13 Learmonth Gardens, Edinburgh, 4 .	1939
Yellowly, Robert; 3 Devon Terrace, Berwick-upon-Tweed	1946
Younger, John B.; Belmont, Kelso	1946

HONORARY MEMBERS.

Brown, Miss Helen M. ; Longformacus House, Duns
 Home, Miss Jean Mary Milne ; The Cottage, Paxton
 Warrender, Miss Margaret; 50 Wilton Crescent, London, S.W. 1

ASSOCIATE MEMBERS.

	Date of Admission.
Taylor, George ; Elder Bank, Cockburnspath	1920
White, Adam; The Grange, Reston	1928

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 King's College Library, Newcastle-upon-Tyne
 Literary and Philosophical Society, Newcastle-upon-Tyne
 The Newton Library of Cambridge; per W. Brockett, Zoological
 Laboratory, The Museums, Cambridge
 Public Library, New Bridge Street, Newcastle-upon-Tyne
 Public Library, Selkirk; per W. Y. Carmichael
 Royal Society of Edinburgh; per G. A. Stewart, Edinburgh
 Society of Antiquaries of London, Burlington House, Piccadilly,
 London, W. 1

EXCHANGES.

The Society of Antiquaries; Queen Street, Edinburgh, 2
 The British Museum; Copyright Office, London
 Dumfries and Galloway Natural History and Antiquarian Society;
 Dumfries
 The Botanical Society; Inverleith Row, Edinburgh, 4
 The Librarian; The University, Edinburgh, 8
 East Lothian Antiquarian and Field Naturalists' Society, c/o
 James Bruce; Rosecot, Wemyss Place, Haddington
 The Librarian; University, Glasgow
 The Archæological Society, Baillie's Institution; 153 W. Regent
 Street, Glasgow, C. 2
 The Natural History Society of Northumberland and Durham;
 Newcastle-upon-Tyne
 The Society of Antiquaries; Newcastle-upon-Tyne
 The Bodleian Library; Oxford
 The Royal Meteorological Society; London
 Yorkshire Naturalists Union, per T. Sheppard, F.G.S.; The
 Museum, Hull
 The British Association; Burlington House, Piccadilly,
 London, W. 1
 Allan A. Pinkerton, Edinburgh Natural History Society; 2
 Stafford Street, Edinburgh, 3
 National Library of Scotland; Parliament Square, Edinburgh, 1
 The Hawick Archæological Society; Wilton Lodge, Hawick

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The Editor, *The Chronicle*; Newcastle-upon-Tyne
 The Editor, *The Daily Journal*; Newcastle-upon-Tyne
 The Editor, *The Mail*; Kelso
 The Editor, *The Advertiser*; Berwick-upon-Tweed
 The Editor, *Scotsman*; North Bridge, Edinburgh, 1
 The Editor, *The Chronicle*; Kelso
The Herald; Glasgow
The Guardian; Alnwick
The Border Standard; Galashiels
The Express; Hawick
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 The Editor, *Southern Reporter*; Selkirk

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The Vice-President.

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 Blair, C. H. Hunter, M.A., D.Litt., F.S.A.; 57 Highbury, Newcastle-upon-Tyne
 Evans, A. H., Sc.D., F.Z.S.; Cheviot House, Crowthorne, Bucks
 Home, Sir John Hepburn Milne; Irvine House, Canonbie, Dumfriesshire
 James, Captain Sir F., Bart.; Beechgrove, Ascot, Berks
 M'Ewen, Captain John Helias F.; Marchmont, Greenlaw
 Paton, Rev. Henry, M.A.; Inchewan, Peebles
 Piddocke, Rev. M. M.; Hillcote, Town Yetholm, Kelso
 Plummer, Major Charles H. Scott; Sunderland Hall, Galashiels

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